

UNITED STATES INTERNATIONAL TRADE COMMISSION
WASHINGTON, D.C.

Before the Honorable Paul J. Luckern

In the Matter of

CERTAIN RUBBER
ANTIDEGRADANTS,
COMPONENTS THEREOF, AND
PRODUCTS CONTAINING SAME

Investigation No. 337-TA-533

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**FLEXSYS AMERICA L.P.'S RESPONSE TO THE PETITIONS
FOR REVIEW OF INITIAL AND RECOMMENDED DETERMINATIONS
SUBMITTED BY THE OFFICE OF UNFAIR IMPORT INVESTIGATIONS,
AND BY SINORGCHEM CO. SHANDONG AND SOVEREIGN CHEMICAL CO.**

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I. INTRODUCTION

Neither the petition filed by the Office of Unfair Import Investigations (“OUII”), nor the petitions filed by Respondents, demonstrates any reason under Commission Rule 210.43(b)(1) why the Initial Determination (“ID”) of the Administrative Law Judge (“ALJ”) should be reviewed by the Commission.¹ The ALJ correctly concluded that Respondents Sinorgchem Co. Shandong (“Sinorgchem”) and Sovereign Chemical Co. (“Sovereign”)² violated 19 U.S.C. §1337(a)(1)(B)(ii).³

The ALJ’s interpretation of the claim term “controlled amount of protic material” is based on an extensive examination of the patent claims, specification and prosecution histories, and complies with Federal Circuit precedent. His claim construction is based entirely on his analysis of the intrinsic evidence and applicable case law. (ID at 35-79). The findings and legal conclusions of the ID on claim construction are not “erroneous.”

In violation of settled Federal Circuit precedent, OUII would define “controlled amount of protic material” to incorporate additional limitations found only in dependent claims, contrary to the en banc decision in *Phillips*,⁴ under which dependent claims are presumed to be narrower

¹ A party seeking review must specify: “(i) that a finding or conclusion of material fact is erroneous; (ii) that a legal conclusion is erroneous, without governing precedent, rule or law, or constitutes an abuse of discretion; or (iii) that the determination is one affecting Commission policy.” *Id.*

² Throughout this Response, Sinorgchem and Sovereign are jointly referred to either as “Respondents” or “Sinorgchem”.

³ The ALJ concluded that Respondent Korea Kumho Petrochemical Co., Ltd. (“KKPC”) did not violate Section 1337 because it did not practice all of the steps of the patented process. Flexsys has petitioned for review of that legal conclusion.

⁴ (ID at 39); *citing Phillips v. AWH Corp.*, 415 F.3d 1303,1315 (Fed. Cir. 2005) (en banc) (“The presence of a specific limitation in a dependent claim raises a presumption that the limitation is not found in the independent claim.”).

in scope than independent claims. No authority is cited for this departure from Federal Circuit precedent.

Lifting quotes out of context from one paragraph of the patent specification out, OUII and Respondents argue that the patentees acted as their own “lexicographers.” This interpretation would result in the claims not covering several specific preferred embodiments of the patents in suit. The Federal Circuit has consistently rejected claim construction decisions of this type, and the ALJ correctly followed that precedent. The only cases in which the Federal Circuit has approved a claim interpretation that does not cover a preferred embodiment are those in which the patentees narrowed the claims during prosecution to overcome prior art, a circumstance that is not present here. Thus, the ALJ properly distinguished the cases relied on by OUII and Respondents.

OUII’s petition incorrectly argues that the ALJ improperly relied on extrinsic evidence, when the ID makes it clear that his decision is based on the intrinsic evidence. (ID at 43-79). Moreover, to the extent that the ALJ cites testimony in the discussion of claim interpretation on pages 80-93 of the ID, 26 of the citations are to the testimony of Respondents’ experts, as opposed to nine citations to the testimony of Complainant’s experts or the inventors. Further, Respondents’ experts agreed with the testimony of Complainant’s expert that was relied on by the ALJ. Thus, the ALJ’s use of this extrinsic evidence was fully in accord with the rules of claims construction.

Based on the correct construction of “controlled amount of protic material,” and relying on the admission of Respondents’ expert Dr. Fu, the ALJ correctly found that the process practiced by Sinorgchem to produce 4-ADPA and 6PPD is covered by the claims of the ‘063 and ‘111 patents.

The ALJ correctly rejected the argument that the claims were indefinite. In this case involving a chemical process, both OUII and Respondents pinned their indefiniteness defense on the *Datamize*⁵ case holding that the phrase “aesthetically pleasing” was indefinite as applied to interface screens on electric kiosks. The ALJ disagreed. He relied on the recent decision in *Energizer Holdings, Inc. v. Int’l Trade Comm’n*, 435 F.3d 1366 (Fed. Cir. 2006), which, in turn cited the *Exxon*⁶ case, relied on by the ALJ, and the *Datamize* case. The ALJ correctly found that “a person of ordinary skill in the art having at least a masters degree in organic chemistry and some experience in the art of making 4-ADPA and aware of all pertinent prior art . . . would not find the claimed term at issue indefinite,” further finding that “the specifications provide a number of examples through controlled experiments that would permit said person to determine the specific upper and lower limits of protic material for a specific set of reaction conditions and that the prosecution history even provides calculations.” (ID at 116).

There is no substance whatsoever to Respondents’ petition that the claims of the patents in suit are “obvious” over the prior art. The patents in suit represent a breakthrough discovery by the inventors of a new, environmentally friendly method of producing 4-ADPA, which earned the inventors the Presidential Green Chemistry Challenge Award, and Monsanto’s Thomas and Hochwalt Science and Technology award, the highest technical award given for fundamental science by Monsanto. (ID at 34). Respondents rely on a 1903 publication by Wohl, which was considered by the PTO examiner during the prosecution of the patents in suit. The ALJ properly relied on the explicit teachings of the Wohl reference, finding that it does not teach the first two steps of the claims. Further, the ALJ noted that “there is no evidence in the record that in the 88 years between the publication of Wohl and the time Bashkin began his work. . . that anyone in

⁵ *Datamize v. Plumtree Software*, 417 F.3d 1342, 1350 (Fed. Cir. 2005).

⁶ *Exxon Research & Eng’g Co. v. United States*, 265 F.3d 1371, 1375 (Fed. Cir. 2001).

the rubber chemical industry ever considered using the Wohl reaction as a starting point for producing 4-ADPA or 6PPD.” (ID at 113). Thus, the ALJ found that Respondents’ obviousness argument amounted to no more than an impermissible use of hindsight.

II. SUMMARY OF PROCEEDINGS

Complainant Flexsys America LP (“Flexsys”) owns patents covering a process for producing a chemical called “4-ADPA⁷,” which is used to produce “6PPD⁸,” an antidegradant used in virtually every tire in the world. Flexsys asserted that Respondents imported 6PPD made by processes covered by claims 30 and 61 of U.S. Patent No. 5,117,063 (“the ‘063 patent”) and by claims 7 and 11 of U.S. Patent No. 5,608,111 (“the ‘111 patent”).⁹ The ‘111 patent is a continuation of a continuation-in-part of the ‘063 patent. (CX 3). The ‘063 patent includes 12 examples, a number of which (including Examples 2-5 and Examples 7-9) are controlled experiments. (ID at 83).

Beginning on November 7, 2005, the Administrative Law Judge (“ALJ”) conducted an extensive six day hearing in which he heard testimony by three inventors of the patents in suit (all of whom had PhDs), two technical experts for Flexsys and two technical experts for Respondents. The patents in suit involve organic chemistry. The ALJ holds a masters degree in chemistry.

A. The Petitions Submitted By OUII and Sinorgchem Provide No Reason To Disturb The ALJ’s Claim Interpretation

A major issue in this action is the proper construction of the phrase “controlled amount of protic material,” which appears in each of the asserted claims. Following post trial briefing, the

⁷ 4-ADPA is an acronym for “4-aminodiphenylamine.” (ID at 9, n.3).

⁸ 6PPD is an acronym for N-(1,3-dimethylbutyl)-N’-phenyl-p-phenylenediamine. (ID at 10).

⁹ Claim 30 of the ‘063 patent and claim 7 of the ‘111 patent cover three-step methods of making a substance known as “4-ADPA”; claim 61 of the ‘063 patent and claim 11 of the ‘111 patent cover a four-step method of making 6PPD.

ALJ issued the Initial Determination. In the ID, the ALJ devoted 40 pages to an analysis of the claims, applicable Federal Circuit case law, the specifications of the patents, and their prosecution histories, (ID at 38-78) and based on that analysis construed the term “controlled amount of protic material” to mean “that the amount of protic material (which is not limited to water) should be controlled between (1) an upper limit of protic material which is the amount of protic material beyond which the reaction between nitrobenzene and aniline (or substituted aniline) is inhibited and (2) a lower limit of protic material which is the amount of protic material below which the desired selectivity for 4-ADPA intermediates is not maintained.” (ID at 78-79).

In the reaction of the invention, aniline and nitrobenzene are reacted in a “suitable solvent system,” which may comprise an excess of aniline or any one of a number of other solvents. The reaction is run at a suitable temperature in the presence of a suitable base and a controlled amount of protic material. *E.g.*, ID at 35-36. Example 10 of the ‘063 and ‘111 patents “discloses high conversion rates and selectivity with a 100 percent conversion of nitrobenzene . . . [and] a 92.8 percent yield of 4-ADPA intermediates. (ID at 85). Example 13 of the ‘111 patent “gives a 95.5 percent yield of 4-ADPA.” (ID at 85).

OUII and Respondents, on the other hand, argued that “controlled amount of protic material” should be limited to 4% water when aniline is used as a solvent. (OUII Pet. at 20). OUII and Respondents fail to explain how their proposed claim construction squares with the language of the independent claims, which are not limited to a particular solvent, but recite that the reaction occurs in a “suitable solvent system,” of which aniline is but one of the possible solvents. As a matter of common sense and English grammar, the very language of the claims at issue precludes OUII’s proposed claim construction.

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If the claims were construed in the manner argued by OUII and Respondents, they would exclude Example 10, Example 13, Example 15 and Claim 29 of the '111 patent. In this regard, the ALJ found that “one of ordinary skill in the art would not ignore Example 10 when an objective of the patents in issue is to produce high yields of 4-ADPA intermediates with a selectivity favoring production of those intermediates.” (ID at 85). Respondents’ expert Dr. Fu admitted that one skilled in the art, reading the PARAGRAPH, would review the entire patent including Example 10. (ID at 84). Dr. Fu also admitted that one skilled in the art would understand that the reaction of Example 10 is run using aniline as a solvent and about 10% water. (ID at 86-87). Thus, the ALJ correctly rejected OUII’s argument, pointing out that “construing a claim to exclude a preferred embodiment ‘is rarely, if ever, correct and would require highly persuasive evidentiary support.’” (ID at 89-90) *citing Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996). The administrative law judge finds no persuasive evidentiary support for excluding the “preferred specific embodiments” of Examples 10, 13, and 15 and the limitation of claim 29 of the '111 patent.” (ID at 89-90).

In the ID, the ALJ analyzed the intrinsic evidence and applicable case law on pages 35-78, concluding with his interpretation of “controlled amount of protic material at pages 78-79. Thus, there is no merit to OUII’s argument at page 2 that the ALJ relied on extrinsic evidence to construe the claims. The ALJ discussed the testimony of the experts and inventors on pages 80 through 93 of the ID, demonstrating that the admissions of Respondents experts supported his claim interpretation, which was based on the intrinsic evidence. In this regard, the ALJ relied mainly on admissions by Respondents’ experts: there were 21 citations to the testimony of Respondents’ expert, Dr. Fu; five citations to the testimony of Respondents’ expert Dr. Beckman; as compared to six citations to the testimony of Flexsys’ expert, Dr. Crich; two

citations to the testimony of the inventor, Dr. Bashkin, and one citation to the testimony of the inventor, Dr. Stern.

The ALJ's use of this extrinsic evidence was entirely proper and in accord with established law. *Philips v. AWM Corp.*, 415 F.3d 1303, 1337-38 (Fed. Cir.) (“we have also authorized district courts to rely on extrinsic evidence . . . expert testimony can be useful to a court for a variety of purposes . . .”) Essentially, Respondents' own experts provided compelling testimony against Respondents' 4% limitation, and respondents are no asking the Commission to undo the consequences of those admissions. This is neither a good nor a proper reason for the Commission to grant review of the ALJ's determination.

OUII incorrectly argued throughout this case that the patentees acted as their own “lexicographer,” (ID at 78) relying on a few quotations lifted out of context from one paragraph in the patents (which the ALJ referred to as “the PARAGRAPH”, ID at 59-60). The ALJ properly rejected the OUII's superficial interpretation, which is based on a misunderstanding of the chemistry, an incorrect analysis of the patent specification, and a misapplication of the applicable law. Even in the face of the ALJ's careful analysis of the patent specifications, OUII continues to press this argument. The ALJ distinguished each of the cases relied on by OUII in support of its “lexicographer” argument. (ID at 88-89). In its petition, OUII cites a new case, which is equally distinguishable.

OUII makes a novel argument that “the dependent claims of the '063 patent make clear that, at a minimum, when the 'suitable' solvent is aniline. . . and the protic material is water, the percentage of protic material is independent of reaction conditions such as temperature, type or quantity of base or whether the reaction is aerobic or anaerobic.” (OUII Pet. at 20-21, n. 13). This argument confuses the role of claims – to provide limitations that must be met in order to

find infringement – with the specification, which teaches how to practice the invention. It is also inconsistent with the doctrine of claim differentiation – a presumption that dependent claims are different in scope from independent claims. *Phillips v. AWH Corp.*, 415 F.3d at 1315.

OUII fails to acknowledge that the major portion of the ALJ’s claim interpretation analysis is based on the intrinsic evidence. The OUII fails to acknowledge that there was no dispute concerning the ALJ’s reliance on admissions made by Respondents’ experts Dr. Fu and Dr. Beckman in cross-examination. And the OUII fails to acknowledge that the ALJ’s reliance on the expert testimony of Flexsys’ experts was limited to a few points that were uncontroverted.

OUII incorrectly argues at page five that “the ID . . . does not address the specific language in ‘the PARAGRAPH.’” On the contrary, the ID recites the PARAGRAPH at pages 59 and 60, recites the OUII’s argument concerning the PARAGRAPH at page 78, and explains at pages 82 to 93 why OUII’s and Respondents’ arguments regarding the PARAGRAPH are incorrect.

B. The Petitions Submitted By OUII and Sinorgchem Provide No Reason To Disturb The ALJ’s Conclusion that the Claims are not Indefinite

The ALJ properly rejected the indefiniteness defense raised by the Respondents and joined by the OUII. Although this case involved rubber chemicals and complex chemistry, OUII and Respondents have inexplicably argued that the controlling case is one that found the phrase “aesthetically pleasing” relating to an interface screen indefinite,¹⁰ a result that is not surprising since the completely subjective nature of “aesthetically pleasing” has been recognized in zoning

¹⁰ *Datamize*, 417 F.3d at 1350.

cases.¹¹ Further, the OUII failed to address the applicable standard, set forth recently by the Federal Circuit in *Energizer*, 435 F.3d 1366.

C. The Petition Submitted By Sinorgchem Provides No Reason to Disturb The ALJ's Conclusion That The Claims Are Not Obvious

The ALJ also rejected Sinorgchem's argument that the claims were obvious over an obscure 1903 publication. The ALJ found that Wohl did not teach the reaction of aniline and nitrobenzene, but instead, taught that nitrobenzene reacted with base, and the resulting product reacted with aniline. The ALJ found that Wohl disclosed that at the end of his reaction, the "reaction mass" (everything he put into the reaction vessel) became "quite hard," and thus concluded that Wohl did not teach a suitable solvent system. The ALJ also found that Wohl did not use a controlled amount of protic material because all of the water boiled off when he ran the reaction at 120 degrees C (hence the "quite hard" reaction mass), and there was no protic material during the reaction.

The ALJ also found that there was no motivation in the prior art to combine Wohl with other references. In fact, Wohl, and later publications discussing it, teach away from the invention. Abramova et al described it as a method of producing phenazine. RX 48. If anyone would have recognized that Wohl taught nucleophilic aromatic substitution, Bunnett et al stated that such reactions were "seldom tidy" and suffered from the production of unwanted byproducts. RX 47.

Wohl produced mostly phenazine, and as a byproduct, about 3% of 4-nitrosodiphenylamine. Wohl does not teach that 4-nitrosodiphenylamine is a 4-ADPA intermediate. Wohl does not mention 4-ADPA or 6PPD. In the 88 years between its publication

¹¹ See, e.g., *Metromedia, Inc. v. City of San Diego*, 453 U.S. 490, 510 (1981) ("esthetic judgments are necessarily subjective, defying objective evaluation"), and cases discussed in Section V.b.4, *infra*.

and the time Dr. Bashkin began his work, no one tried to use the Wohl reaction to produce 4-ADPA.

Thus, the ALJ properly rejected Sinorgchem's obviousness argument.

III. THE ALJ'S CONSTRUCTION OF THE TERM "CONTROLLED AMOUNT OF PROTIC MATERIAL" IS THE ONLY CONSTRUCTION PERMITTED UNDER THE CONTROLLING LAW, THE INTRINSIC EVIDENCE AND THE UNDISPUTED EXTRINSIC EVIDENCE

In this action, Flexsys asserted that the products at issue were made by processes covered by claims 30 and 61 of U.S. Patent No. 5,117,063 ("the '063 patent") and by claims 7 and 11 of U.S. Patent No. 5,608,111 ("the '111 patent"). The '111 patent is a continuation of a continuation-in-part of the '063 patent. Claim 30 of the '063 patent and claim 7 of the '111 patent cover three-step methods of making a substance known as "4-ADPA"¹²; claim 61 of the '063 patent and claim 11 of the '111 patent cover a four-step method of making 6PPD.¹³ The claim term "controlled amount of protic material is found in each of the asserted claims.

Claim 61 is representative of the manner in which "controlled amount of protic material is used in the claims at issue:

61. A method of producing alkylated p-phenylenediamines [**6PPD**] comprising the steps of:

- a) bringing aniline and nitrobenzene into reactive contact in a suitable solvent system;
- b) reacting the aniline and nitrobenzene in a confined zone at a suitable temperature, and in the presence of a suitable base and controlled amount of protic material to produce one or more 4-ADPA intermediates.
- c) reducing the 4-ADPA intermediates to produce 4-ADPA; and
- d) reductively alkylating the 4-ADPA of Step c).

¹² 4-ADPA is an acronym for "4-aminodiphenylamine." ID at 9, n.3.

¹³ 6PPD is an acronym for N-(1,3-dimethylbutyl)-N'-phenyl-p-phenylenediamine. ID at 10.

After exhaustively analyzing the claims of the ‘063 and ‘111 patents, their specifications and prosecution histories (ID at 35-78), the ALJ interpreted the “controlled amount of protic material in a manner that includes each of the 12 examples in the ‘063 patent and the 21 examples of the ‘111 patent. ID at 78-79. In doing so, the ALJ relied on intrinsic evidence, and rejected the arguments of the OUII and Respondents, which were based on quotes taken out of context from one paragraph in the specification. ID at 84.

As is discussed above in the Introduction, the OUII’s petition mischaracterizes the ID, is contrary to the teachings of the patents as a whole, and is contrary to settled Federal Circuit case law. Sinorgchem’s petition is equally flawed. Both petitions ignore the fact that ID relies almost exclusively on the intrinsic evidence, and to the extent it discusses testimony, it relies in large part on admissions made by Sinorgchem’s own experts or on testimony by Flexsys’ experts that is unrefuted. Further, none of the testimony relied on in the ID contradicts the teachings of the patents or the prosecution history.

A. Overview of the Intrinsic Evidence, the Undisputed Extrinsic Evidence and the Controlling Law

Based upon a thorough, detailed, and complete analysis of the intrinsic evidence, the extrinsic evidence, and the pertinent case law, the ALJ construed the term “controlled amount of protic material” to mean:

that the amount of protic material (which is not limited to water) should be controlled between (1) an upper limit of protic material which is the amount of protic material beyond which the reaction between nitrobenzene and aniline (or substituted aniline) is inhibited and (2) a lower limit of protic material which is the amount of protic material below which the desired selectivity of 4-ADPA intermediates is not maintained.

(ID at 78-79)

This finding on pages 78-79 of the ID was preceded by a thorough analysis from page 35 through page 78 of the intrinsic evidence – the claims, the patent specifications, and the prosecution history. The ALJ’s interpretation of this claim term is fully consistent with and supported by *all* of the intrinsic evidence.

To the relatively small extent that the ALJ’s analysis includes a discussion of extrinsic evidence – the testimony of the experts – it is based on admissions of Sinorgchem’s experts or on testimony by Flexsys’ experts that was undisputed. (See ID at 91-93 summarizing this evidence).

The construction adopted by the ALJ “is applicable to and inclusive of all of the examples and disclosures in the patents in issue.” (ID 79 (emphasis original)). This conclusion is not disputed. In sharp contrast, the ALJ concluded that the claim construction argued by OUII and Sinorgchem excluded key examples of the patent, was inconsistent with some of the language in the patent, and violated several rules of claim interpretation. (See, e.g., ID 45, 77-79, 79 n.23, 84 n.26, 87 n.29, 92).

OUII faults the ALJ for relying on extrinsic evidence (although he really did not), while ignoring: (i) the fact that the vast majority of this extrinsic evidence was provided by both Respondents’ experts, Dr. Fu and Dr. Beckman; (ii) the fact that their testimony is consistent with the intrinsic evidence; (iii) the fact that their testimony is consistent with Flexsys’ experts’ testimony; and (iv) the fact that their testimony fully supports the ALJ’s claims construction. (see, e.g., ID 60, 70, 81, 83, 84, 85, 86, 87, 91 & 92) Significantly, OUII and Sinorgchem do *not* dispute, explain or challenge this testimony, the ALJ’s interpretation of this testimony, or the ALJ’s reliance upon this testimony. This now undisputed and unchallenged evidence leaves no doubt that the ALJ’s construction is correct. Thus, the ALJ’s use of this testimony is entirely proper and authorized under controlling Federal Circuit precedent. *Philips v. AWM Corp.*, 415

F.3d 1303, 1337-38 (Fed. Cir.) (“we have also authorized district courts to rely on extrinsic evidence expert testimony can be useful to a court for a variety of purposes . . . “).

Respondents and the OUII (the “Petitioners”) incorrectly asserted that the claim term “controlled amount of protic material” means that there can be no more than 4% water when aniline is a solvent.¹⁴ (*See, e.g.*, ID at 43-44) This proposed construction *violates every rule* of claim construction. It would result in an interpretation that is inconsistent with, and contradicted by, *all* of the intrinsic evidence found in the patents and their file histories, and contradicted by the undisputed testimony of Respondents’ own experts.

Petitioners’ entire claim construction argument is based on an isolated section from the one of the paragraphs in the patent, which the ALJ defined in the ID as “the PARAGRAPH.”¹⁵ Petitioners rely on parts of four sentences, taken entirely out of context. Their claim construction argument, however, is contradicted by other language in the PARAGRAPH, as the ALJ correctly found. Petitioners “ignore[e] the remaining language of the patents” and improperly view the isolated section out of context and elevated above all other intrinsic evidence. (ID 84 n.26)

Petitioners’ attempt to read a 4% water limitation when aniline is the solvent into the claims, is an absolute impossibility. Respondents’ expert, Dr. Fu, admitted that the PARAGRAPH refers to the “teachings of the present invention,” which includes the entire patent, and that example 10 teaches using about 10% water when aniline is the solvent (ID 84-86). Petitioners do not challenge or dispute Dr. Fu’s testimony or the ALJ’s reliance on that testimony. Thus, Dr Fu admitted that when Petitioners’ only intrinsic evidence is viewed in

¹⁴ It is stipulated that [

] Thus, these units will not be used in the present brief and the amount of water will simply be referred to as a percentage.

¹⁵ The ID refers to this paragraph (col. 4, line 31- col. 5, line 4 of the ‘063 patent and col. 5, lines 27-65 of the ‘111 patent) as the PARAGRAPH, which convention will be used herein.

context, this intrinsic evidence supports the ALJ's claim construction, and the rejection of Petitioners' 4% water limitation. Therefore, all of the intrinsic evidence, when taken in context, fully supports the ALJ's claim construction.

Claim 29 of the '111 patent recites reaction conditions having "a controlled amount of protic material . . . wherein said suitable **solvent is aniline**, . . . and the amount of protic material present at the beginning of the reaction is up to about **13.8 volume % water**. . . ." This intrinsic evidence is fatal to Petitioners' claim construction. As a matter of law and logic, the claim term "controlled amount of protic material" cannot be defined to have an upper limit of 4% water when aniline is the solvent, where there is an additional limitation in the same claim that provides for 13.8% water when aniline is the solvent. (*See* ID at 53, 84, 87-88, 89, 92).

The 13.8% water disclosure in Claim 29, however, is not the only intrinsic evidence that supports the ALJ's claim construction and the rejection of Petitioners' 4% water limitation. Significantly, under Petitioners' proposed construction, several embodiments of the invention will be written out of the claims, including the preferred reaction conditions set out in Examples 10, 13, and 15. (*See, e.g.*, ID at 79, 86, 89-90). It is undisputed and now unchallenged that all of these preferred embodiments would be understood by one of skill in the art to use aniline as a solvent and have from about 10-14% water. (*see, e.g.*, ID at 84, 85-87)

As expressly mandated by the Federal Circuit, proposed constructions such as Petitioners' that reads the preferred embodiments, such as Examples 10, 13, and 15 out of the claims are *rarely if ever correct*. ID at 89-90; *See Phillips*, 415 F. 3d at 1323; *Vitronics Corp.*, 90 F. 3d at 1583. Thus, the ALJ appropriately rejected Petitioners' construction, because there was "no persuasive evidence for excluding the 'preferred specific embodiments' of Examples 10, 13, and 15" (ID 89-90).

The patent specification further contains broad non-limiting language throughout the patent, such as “e.g.” and “for example.” In fact, this broad non-limiting language is specifically found in the PARAGRAPH and directly precedes and qualifies the isolated section upon which Petitioners rely. (*See, e.g.*, ID 82-83, 91) This broad non-limiting language cuts against Petitioners’ arguments that Flexsys acted as its own lexicographer and defined the term controlled amount to exclude more than 4% water when aniline is the solvent, or that Flexsys disavowed using more than 4% water when aniline is the solvent.

Moreover, this broad non-limiting language, coupled with Claim 29’s recital of 13.8% water when aniline is the solvent, the PARAGRAPH’s teaching of 10% water when aniline is the solvent, and Examples 10, 13 and 15’s teaching of about 10-14% water when aniline is the solvent, leaves no doubt that all of Petitioners’ arguments for a 4% water limitation must fail. (*See, e.g.*, ID at 89-91, 92).

Additionally, Petitioners’ attempt to write a 4% water limitation into the claims is irreconcilable with the intrinsic evidence found in the file histories. Specifically, having 13.8% water when aniline is the solvent is repeatedly and expressly found in the file history. (*See, e.g.*, ID at 74, 77).

Accordingly, Petitioners’ claim construction, which limits the term “controlled amount of protic material” to 4% water when aniline is a solvent, violates every rule of claim construction, is inconsistent with the teachings of the patents, their file histories and the undisputed and now unchallenged testimony of Respondents’ own experts. On the other hand, as correctly noted by the ALJ, his construction is the only one that “is applicable to and inclusive of all of the examples and disclosures in the patents in issue.” (ID at 79).

B. The ID Contains a Detailed, Thorough and Correct Claim Construction Analysis that Follows the Mandates of the Federal Circuit

The ALJ's claim interpretation analysis is a major portion of the ID, running from page 35 to page 93. It includes a detailed analysis of the applicable law, which Petitioners do not challenge. (ID at 38-43). It also includes an exhaustive analysis of the intrinsic evidence, the arguments of the parties and the OUII, and the undisputed extrinsic evidence. The ALJ's analysis follows the claim construction guidelines set forth by the Federal Circuit in *Phillips v. AWH*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc).

In performing this analysis the ALJ evaluated the intrinsic evidence found in the asserted claims, the non-asserted claims, the patent specifications, and the file histories, culminating in his construction of the claim language at issue. (ID at 43-78.) After providing his interpretation of the claim term, he further analyzed the intrinsic evidence, the undisputed extrinsic evidence and the arguments made by the Respondents and the OUII in light of his construction. (ID at 79-93.)

At the end of his 54 page claims construction analysis, the ALJ concluded that:

Considering all of the intrinsic evidence, the administrative law judge rejects the interpretation proposed by respondents and the staff of the claim term in issue. An important principle of claim interpretation is that "the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, **but in the context of the entire patent including the specification.**" *Phillips*, 415 F.3d at 1313. Moreover, the prosecution history is also "part of the intrinsic evidence." *Id.*, at 12317.

(ID at 92 (underlining original; emphasis added)).

C. The Entirety of the Intrinsic Evidence Supports the ALJ's Claim Construction and His Rejection of the 4% Water Limitation

Petitioners' claim construction arguments are based *solely* on quotations out of context from the PARAGRAPH. Petitioners argued that the ALJ should construe the claims in view of

the out-of-context quotes, and on two of the 12 examples in the '063 patent,¹⁶ to the exclusion of the rest of the patent specification and to the exclusion of the language of the claims. This is a fundamental and fatal flaw in all of Petitioners' arguments. "Thus, [as the ALJ correctly found,] respondents have limited the basis for their interpretation to only certain language of the PARAGRAPH and certain examples **while ignoring** the remaining language of the patents in issue including other 'preferred specific embodiments.'" (ID 84, n.26 (emphasis added)) The ALJ then went on, in summarizing his claim construction ruling, to correctly find that:

respondents and the staff based their interpretation of the claim term in issue only on certain language of the PARAGRAPH and on Examples 3 and 8 of the patents in issue even though the intrinsic evidence also comprises other examples of the patents in issue, other language of the PARAGRAPH, the claims of the patents in issue, other portions of the patents in issue including the language in the BACKGROUND OF THE INVENTION and SUMMARY OF THE INVENTION sections, other language in the DETAILED DESCRIPTION OF THE INVENTION section of said patents as well as the prosecution history in issues where applicants argued that patent claim 29 requires that the reaction in issue when aniline is the solvent has a volume percent water at the beginning of the reaction of up to 13.8 volume percent and the Examiner accepted that argument.

(ID at 92 (emphasis in original)).

Petitioners have not abandoned, or even refined the fundamentally flawed arguments that the ALJ correctly rejected. Thus, all of Petitioners' arguments ignore and violate the fundamental and well established rule of claim construction that the patent must be considered as a whole. As provided by the Supreme Court in *Markman*:

The necessarily sophisticated analysis of the whole document, **required** by the standard construction rule that **a term can be defined only in a way that**

¹⁶ It is undisputed that example 3, which was conducted under ambient conditions, i.e., room temperature, pressure and under aerobic conditions, formed the basis for the 4% water limitation upon which Petitioners rely. RBr 25; ID at 64-65, 84 n.26.

comports with the instrument as a whole. . . . and so will preserve the patent's internal coherence.

Markman v. Westview Instruments, Inc., 517 U.S. 370, 389-90 (1996)(emphasis added).

The importance of this rule of claim construction was again emphasized by the Federal Circuit in *Phillips*:

Importantly, the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but **in the context of the entire patent**, including the specification.

Phillips v. AWH Corp., 415 F.3d 1303, 1313 (Fed. Cir. 2005)(en banc)(emphasis added)(see ID at 92 quoting the above passage from *Phillips*).

If the patents and their file histories are considered as a whole, in their entirety, this intrinsic evidence leads to but one conclusion – the ALJ's construction is correct. As the ALJ found, his construction “is applicable to and inclusive of all of the examples and disclosures in the patents in issue.” (ID 79) Significantly, Petitioners do not contest this finding. Rather, their challenges to the ALJ's claim construction continue to improperly focus on the isolated section from the PARAGRAPH in an attempt to support a construction that would admittedly exclude, and be inconsistent with, the remainder and bulk of the intrinsic evidence. (*See, e.g.* ID at 86).

D. The Asserted Claims Provide for a Broad Range of Conditions; but contain No Numeric Limitation, No Limitation Requiring Aniline as the Solvent, and No Limitation Requiring Water as the Protic Material

The ALJ's analysis followed the long standing rule that proper starting point to define the scope of the invention is “always with the language of the asserted claim itself.” *Comark Communications Inc. v. Harris Corp.*, 156 F.3d 1182, 1186 (Fed. Cir. 1998). Thus, citing to and relying upon well established principles of patent law mandated by *Phillips*, 415 F.3d at 1314-16, the ALJ analyzed the term controlled amount of protic material based upon the context in which that term is used in the asserted claims. (ID 38, 44-50)

Based upon the analysis of this intrinsic evidence, the ALJ correctly found that the claims on their face provide for a broad range of conditions for reacting nitrobenzene with aniline. He further correctly found that the claims contain no limitations requiring aniline to be the solvent, and no limitations requiring water to be the protic material, and contain no *numeric* limitations on the amount of protic materials, such as water. (ID 49-50; 79-80)¹⁷

Thus, as correctly found by the ALJ when viewed in the context of the claim, the term “controlled amount” provides no suggestion that a numeric limitation should be read into this term. To the contrary, the broad manner in which the reaction conditions are set forth in the claim would lead one of ordinary skill to believe that no numeric limit was suggested, intended or should be applied.¹⁸

Moreover, it is a fundamental rule of claim construction that numeric limitations from the specification and examples should not be read into a claim term. ID at 40; *quoting Phillips*, 415 F.3d at 1323; *see also; Glaxo Wellcome, Inc. v. Andrx Pharmaceuticals, Inc.*, 344 F.3d 1226,

¹⁷ *See also* CBr 40-42; CFF 116-18; 145-52; 264-67; 288-89; 311-23; 325; 329; 313-23 (which are incorporated and reasserted herein by reference).

¹⁸ Petitioners also improperly base their claim construction on the accused infringing process. (ID at 45). Thus, the ALJ correctly rejected this improper starting point from which Petitioners’ claims construction was based. (ID at 47-48). In doing so, the ALJ correctly noted that that Petitioners’ themselves admitted that “the claims in issue should not require the solvent system to be aniline and the protic material to be water (RRBr at 10).” (ID 47; *see generally* ID 45-50; 79) In their papers below and before the Commission, Petitioners take inconsistent positions. Thus, in spite of their admission that the claims should not be limited to aniline and water; they continue to request in their Petitions that the Commission read these terms into the claims. Similarly, their attack on the ALJ for addressing the inventors “intent” is unfounded. Petitioners raised and relied upon the inventors “intent” in their post trial briefs (*See., e.g.*, RBr. at 29; RFF 4.36; SBr. at 4) and the ALJ was merely addressing Petitioners’ arguments in the ID. In fact, at pages 10 and 18 of the OUII’s petition, the inventor’s intent is again raised. Thus, for the Petitioners’ to now assert error, merely because the ALJ addressed their own arguments, is the height of hypocrisy.

1233 (Fed. Cir. 2003); *Dow Chemical Co. v. Sumitomo Chem. Co., LTD*, 257 F.3d 1364, 1377 (Fed. Cir. 2001).

Thus, the intrinsic evidence, which forms the starting point for the claims construction analysis, fully supports the ALJ's claim construction and provides no support for Petitioners construction. In fact, the Petitioners do not dispute the ALJ's analysis and findings with respect to this intrinsic evidence.

E. The Non-Asserted Claims Provide Further Intrinsic Evidence Strongly Supporting the ALJ's Construction

Following the express mandate of *Phillips*, the ALJ evaluated the non-asserted claims of the patents. (ID 39-40, 48, 50-53) This extrinsic evidence consists of independent Claim 29 of the '111 patent and the dependent claims contained in the patents. As the ALJ correctly found both Claim 29 and the dependent claims fully support, and in fact, create a strong presumption in favor of the ALJ's claim construction. (ID 39-40, 48, 50-53, 79 n.24, 80, 84, 87-90, 92)

1. Claim 29 of the '111 Patent provides for 13.8% Water when Aniline is the Solvent and thus makes Petitioners' 4% Water Limitation an Impossibility.

Claim 29 of the '111 patent provides for the reaction of nitrobenzene and aniline:

in the presence of . . . **a controlled amount of protic material** . . . wherein said suitable **solvent is aniline**, said **protic material is water** and the amount of protic material present at the beginning of the reaction is up to about **13.8 volume % water** based upon the total volume of the reaction mixture.

13.8% water is *greater* than Petitioners' 4% water limitation. Petitioners' cannot and do not dispute this unassailable intrinsic evidence. (*see* ID 53, 80, 84, 89-90, 92) As expressly provided by the Federal Circuit in its *en banc Phillips* decision:

Other claims of the patent in question, both asserted and unasserted, can also be **valuable sources of enlightenment** as to the meaning of a claim term. *Vitronics*, 90 F.3d at 1582 . Because claim terms are normally used consistently throughout the patent, the usage of a term in one claim can often illuminate the meaning

of the same term in other claims [citation omitted]

Phillips, 415 F.3d at 1314 (emphasis supplied).

Claim 29 is fatal to Petitioners' claim construction, because the claim term "controlled amount of protic material" must have the same meaning in all claims of the same patent or related patents. *Omega Engineering, Inc. v. Raytek Corp.*, 334 F.3d 1314 (Fed. Cir. 2003); *Phillips*, 415 F.3d at 1314; ID 79 n.24 ("The parties have proposed the same construction for the claimed term 'controlled amount of protic material' as found in the asserted claims of not only the '063 patent but also the '111 patent. This is to be expected.").¹⁹ Thus, as the ALJ correctly found, this term cannot be defined to have an upper limit of 4% water when aniline is the solvent, where there is an additional limitation in the same claim that provides for 13.8% water when aniline is the solvent. (ID 80, 84, 87-88, 89-90, 92)

Moreover, 13.8% water is not the maximum amount of water covered by the term controlled amount of protic material. Claim 29, which contains the claim term "controlled amount of protic material," adds the 13.8% water term as a further limitation to narrow the upper limit of protic material covered by Claim 29 to no more than 13.8% water at the start of the reaction. (CX-3 at col. 22, lines 54 & 56-59.) By adding the additional 13.8% water limitation to the controlled amount of protic material term, Claim 29 "strongly implies" that the controlled amount of protic material term by itself covers more than 13.8% water. *Phillips*, 415 F.3d at 1314.²⁰ Thus, contrary to Petitioners' arguments the 13.8% water term is not a broadening of the

¹⁹ The Petitioners' attempt to distinguish *Omega* is misplaced. There is nothing in *Omega* that authorizes a court to change the construction of a term from one related patent to another. Moreover, the Petitioners admitted that the term should be construed the same for all patents.

²⁰ The claim term "steel" in *Phillips* was used in the same way as the present claim term 13.8% water. Thus, the *Phillips* court found that the use of the term "steel" to modify "baffles" "strongly implies that the term 'baffles' does not inherently mean objects made of steel." Similarly, this rational of *Phillips* provides that the use of the term 13.8% water to modify

term controlled amount of protic material. Rather, the 13.8% water term is an added limitation that narrows the reach of the controlled amount of protic material term in Claim 29.

In fact, the evidence establishes that the amount of water present under the conditions of Claim 29 would *increase after* the start of the reaction. (*See, e.g.* CX 3, Col. 2, lines 55-62; CFF 168, 277). Claim 29 does *not* require that this additional water be removed. Thus, Claim 29 discloses and covers greater than 13.8% water *during* the reaction. Accordingly, the indisputable intrinsic evidence that Claim 29 covers more than 13.8% water as the reaction progress toward completion, further illustrates the unsupportable and erroneous nature of Petitioners' 4% water limitation.²¹

2. The doctrine of claim differentiation creates a strong presumption that independent claims are broader than dependent claims

As the ALJ correctly found, the presence of a specific limitation in a dependent claim raises a presumption that the limitation is not present in the independent claim. *Phillips*, 415 F.3d at 1315 (Fed. Cir. 2005). This presumption is especially strong when the only difference between the independent and dependant claims is the limitation in dispute. *SunRace Roots Enter. Co., Ltd v. SRAM Corp.*, 336 F.3d 1298, 1303 (Fed. Cir. 2003). (ID 39-40)

Differences between the claims are helpful in understanding the meaning of claim terms. *Phillips v. AWH*, 415 F.3d 1303, 1314 (Fed. Cir. 2005). Thus, the doctrine of claim

“controlled amount of protic material” means that controlled amount of protic material covers more than 13.8% water. *Phillips*, 415 F.3d at 1314.

²¹ The OUII's position below was that this claim term should be construed to mean that there is no more than 4% water when aniline is the solvent and tetramethyl ammonium hydroxide (TMAH) is the base is also irreconcilable with the intrinsic evidence. (ID at 44) Claim 30, which depends from that Claim 29 adds the further limitation to claim 29 that the base be “a tetraalkyl ammonium hydroxide,” which the patent specification defines as including TMAH. (111 patent Col. 4, line 50). Thus, for the reasons set out above regarding the Petitioners' claim construction argument, the OUII's proposed claims construction below is also an absolute impossibility. The OUII appears to have now abandoned the claim construction that it initially advanced to the ALJ.

differentiation creates a presumption that each claim in a patent has a different scope. *Amgen, Inc. v. Hoechst Marion Roussel, Inc.*, 314 F.3d 1313, 1326 (Fed. Cir. 2003); *Comark Commc'n, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998). “[W]here the limitation that is sought to be ‘read into’ an independent claim already appears in a dependent claim, the doctrine of claim differentiation is at its strongest.” *Liebel – Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 910 (Fed. Cir. 2004). (ID 40)

Thus, it is a fundamental principle that “[a]n independent claim usually covers a scope broader than the preferred embodiment, especially if the dependent claims recite the precise scope of the preferred embodiment.” *RF Delaware v. Pacific Keystone Tech.*, 326 F.3d 1255, 1264 (Fed. Cir. 2003) (finding that lower court “erred in reading limitations of narrower or dependent claims of the [] patent into a broader independent claim”). (ID 40)

In applying the doctrine of claim differentiation to the intrinsic evidence the ALJ conducted a detailed evaluation of *all* of the dependent claims, which analysis supports the ALJ’s construction. (ID at 39-40, 50-53, 79, 92).²² From this analysis it is clear that Petitioners’ attempt to read aniline into the claim term suitable solvent, water into the claim term protic material, and to read a 4% upper limit for water into the claim term controlled amount of protic material is inconsistent with, and untenable in view of the dependent claims.

Thus, the Petitioners’ construction improperly reads limitations from the dependent claims back into the independent claims. For example, dependent claim 41 of the ‘063 patent, which depends from claim 30, adds the limitation “wherein said solvent system includes aniline and up to about 4 v/v % water based on the total volume of the reaction mixture.” (CX-1 at col. 14, lines 50-52.) This is precisely the interpretation that Petitioners argue for “controlled amount

²² See also CBr 32, 48-51 (which are incorporated and reasserted herein by reference).

of protic material” in claim 30. Thus, there is an especially strong presumption that Petitioners’ construction is improper. ID at 39-40); *See Phillips*, 415 F. 3d at 1315 (finding that presence of a specific limitation in a dependant claim raises a presumption that the limitation is not present in the independent claim); *SunRace Roots Enter. Co., Ltd. v. SRAM Corp.*, 336 F. 3d at 1301 (finding that presumption is especially strong when the only difference between the independent and dependant claims is the limitation in dispute). Moreover, there is nothing in the specification or file history that would rebut this presumption.

Not only does Petitioners’ construction improperly read dependent claim limitations back into the independent claims, it also improperly creates internal conflicts within the claims. For example, as set forth in the following table, Respondents’ claim construction cannot be reconciled with, and in fact is in direct conflict with, these other claims in the patent.

Respondents’ Construction	Claims depending from asserted claim 30 of the ‘063 patent ²³
a) bringing aniline and nitrobenzene into reactive contact in a suitable <u>aniline</u> solvent system;	Claim 34. ... wherein said solvent is nitrobenzene.
b) reacting the aniline and nitrobenzene in a confined zone at a suitable temperature, and in the presence of a suitable base and controlled amount of <u>water as the</u> protic material to produce one or more 4-ADPA intermediates; <u>wherein the amount of water is controlled such that there is no more than 4% water.</u>	Claim 35. ... wherein said solvent is dimethylsulfoxide. Claim 40. ... wherein said protic material is selected from methanol, water and mixtures thereof. Claim 42. ... wherein said solvent system includes dimethylsulfoxide and up to about 8 v/v % water ...

Thus, Petitioners’ claim construction creates internal conflicts between the patent claims. These internal conflicts provide further evidence of the erroneous nature of that construction and

²³ These claims depend from claim 31, which in turn depends from asserted claim 30 of the ‘063 patent, and thus, any interpretation of the terms of claim 30 should be consistent with these dependent claims.

serve to further strengthen the already strong presumption that Petitioners' claim construction is improper.

On the other hand, the ALJ's construction is fully consistent with *all* the claims of both patents, including Claim 29. This undisputed conclusion provides compelling evidence that the ALJ's construction is correct.

Neither the Respondents nor the OUII dispute that their claim construction would read limitations from the dependent claims into the independent claims and create internal conflicts between the claims. Instead, Respondents rely upon a pre-*Phillips* case that addressed 35 U.S.C. § 112, ¶ 6 means-plus-function claims, which claims and issues are not present here. (Sinorgchem Pet. at 17) Thus, Respondents wrongly argue that the doctrine of claims differential cannot "trump" the clear claim language, the specification, and the file history. (Sinorgchem Pet. at 17).

Regardless of the applicability of their case to the present proceedings, Respondents have no facts to support the conclusion they seek. As set forth above, Respondents do not contest the ALJ's finding that the clear language of the claims, themselves, does not require a 4% water limitation when aniline is the solvent. Similarly, it is undisputed that the specifications, and in particular, the PARAGRAPH, Examples 10, 13 and 15 provide for 10-14% water when aniline is the solvent. (ID at 74, 76-77, 84, 86-89, 92).²⁴ Additionally, it is undisputed that the file history repeatedly recites having 13.8% water when aniline is the solvent. Thus, all of the intrinsic evidence is in accord with the presumption created by the doctrine of claims differentiation.

The OUII, on the other hand, unable to contest the clear intrinsic evidence, distorts the doctrine of claim differentiation. (OUII Pet. at 22-24) Contrary to the well established and

²⁴ See also CBr. 31, 44-47, CRBr. 1, 5-9, 13-19; CFF 139, 164-67, 237- 244, 262-286, 290-304, 354 (which are incorporated and reasserted herein by reference).

unassailable law that “an independent claim should be given *broad scope* than a dependent claim to avoid rendering the dependent claim redundant,” *Phillips*, 415 F.3d 1324 (emphasis added)²⁵ the OUII argues the exact opposite. Thus, the OUII relies on the presence of limitations in dependent claims, to argue that the Commission should read those limitations into the independent claims. The OUII provides no authority for this argument, because none exists.

The OUII’s argument would turn the doctrine of claim differentiation on its head. In fact, a similar assertion was expressly and emphatically rejected by the Federal Circuit, in *RR Delaware*, holding that the lower court “erred in reading limitations of narrower dependent claims . . . into a broader independent claim.” *RR Delaware*, 326 F.3d at 1262.²⁶

F. The Patent Specifications Provide Compelling Evidence Supporting the ALJ’s Claim Construction

Following a thorough and complete analysis of the specifications of the patents in suit, (ID 40, 53-72), the ALJ explained how the specifications support his claim construction and how the *undisputed* extrinsic evidence is consistent with the specifications. (ID 79-93) In this regard, the ALJ relied heavily on admissions made by the *Respondents’* expert witnesses, Beckman and Fu, which are consistent with the ALJ’s interpretation of the specifications. Significantly, Petitioners do not challenge the testimony of Beckman and Fu that was relied on by the ALJ.

²⁵ “The presence of a dependent claim that adds a particular limitations gives rise to a presumption that the limitation in question is not present in the independent claim.” *Phillips*, 415 F.3d at 1314-15. It is a fundamental principle that “[a]n independent claim usually covers a scope broader than the preferred embodiment, especially if the dependent claims recite the precise scope of the preferred embodiment.” *RF Delaware v. Pacific Keystone Tech.*, 326 F.3d 1255, 1264 (Fed. Cir. 2003) Thus, “where the limitation that is sought to be ‘read into’ an independent claim already appears in a dependent claim, the doctrine of claim differentiation is at its strongest.” *Liebel – Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 910 (Fed. Cir. 2004). (ID 40)

²⁶ Respondents did not join in this argument.

The ALJ correctly based his analysis on the level of ordinary skill in the art. In this regard, the ID concluded that, “[i]mportantly, ‘the person of ordinary skill in the art is deemed to read the claim term not only in context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.’ Phillips, 415 F.3d at 1314.” (ID at 40; *see, e.g.*, 69-70, 81-83, 85, 87 n.29).

In this case the ALJ determined that one of ordinary skill in the art would have at least a masters degree in organic chemistry, or the equivalent, and some experience in the art of making 4-ADPA. (ID at 37, 82) Petitioners do not dispute this finding.

1. Petitioners Do Not Dispute that the Abstract, the Background, the Related Art, and Summary of the Invention Sections Fully Support the ALJ’s Claim Construction.

The specifications of the patents in suit are consistent with the ALJ’s claim interpretation. Thus, it should not be surprising that the preliminary sections of the patents – the Abstract, Background, and Summary of the Invention sections – are consistent with the ALJ’s claim construction.

The ALJ concluded that “there is no reference to any numeric range of reagents used in the reaction” in the “Abstract” section of the patents. (ID at 53). The Petitioners do not challenge this finding. The ALJ correctly found that the “Background” section of the patents “provides water as an example of a type of protic material . . .” (ID at 54). The ALJ further found, consistent with the disclosure of the Abstract, that the Background section “does not disclose to a person ordinary skill in the art that there should be either an upper **numeric** limitation or lower **numeric** limitation to the amount of protic material . . .” (ID 53-54 (emphasis supplied)). The same is true for the related art section of the patents (ID 54-56). The ALJ also correctly concluded, and found that as with the forgoing intrinsic evidence, that the Summary of

the Invention section of the patents “places no maximum or minimum limit on the amount of protic material.” (ID 56-57).²⁷

The OUII essentially agrees with these findings. (OUII Pet. at 15). The Respondents do not dispute them, but instead argue that the ALJ “misses the point.” (Sinorgchem Pet. at 17).

Respondents’ misses-the-point argument, like all of their arguments is based solely upon the isolated quotes taken out of context from the PARAGRAPH. Thus, the Respondents would have this Commission believe that the ALJ “missed the point” because he evaluated all of the intrinsic evidence, as required by the Federal Circuit and the Supreme Court, rather than relying solely upon isolated quotes from the PARAGRAPH. (ID at 38); *Vitronics Corp., v. Conceptronic, Inc.*, 90 F.3d at 1582; *Phillips v. AWH Corp.*, 415 F. 3d at 1314. As set forth above, because this argument would have the Commission ignore the totality of the intrinsic evidence, it fails as a matter of law.

Finally, contrary to Respondents implication, Courts routinely rely upon such sections of the patent to construe the claims. *See, e.g., Rexnord Corp.*, 274 F.3d at 1345 (relying, in part, on broad language in the Summary of Invention section to reject accused infringer’s argument that subject matter was disavowed); (ID at 53, n.18).

2. The Detailed Description of the Invention Section, including the PARAGRAPH, the Broad Non-limiting Language, and Examples 10, 13 and 15, Fully Support the ALJ’s Claim Construction.

The ALJ evaluated the Detailed Description of the Invention section of the patents in great detail. (*e.g.*, ID at 57-72). This section of the patent contains the PARAGRAPH (ID at 59-60), detailed teaching about how the various reaction parameter interrelate and effect the outcome of the reaction (ID at 57-59, 60-61), and the preferred embodiments, which are set forth

²⁷ *See also* CBr. 57; CFF 124, 126-29, 313-21 (which are incorporated and reasserted herein by reference).

as examples (ID at 61-72). The ALJ further analyzed this intrinsic evidence and the undisputed extrinsic evidence with respect to his claim construction and the Participants' arguments. (ID at 79-93).

(a) The 4% Water Reference in the PARAGRAPH is Only an Example for Reactions Run Under Ambient Conditions

All of the Petitioners' arguments are based solely on an isolated section of the PARAGRAPH. That section provides for using 4% water when aniline is the solvent for reactions run under ambient conditions. (ID at 91). It is not disputed that Example 3 was run under ambient conditions, i.e., aerobically, room temperature and pressure. (ID at 91). Respondents in their brief before the ALJ and now in their petition admit that the 4% limitation is based upon the data from Example 3. (ID at 84 n.26).²⁸

Moreover, the reference to 4% water is always preceded with language that clearly conveys to one of skill in the art (or for that matter anyone) that it is an example and not an absolute numeric requirement. Thus, the 4% reference is always preceded with words such as "Generally," "e.g.," and "For example." Such terms are the antithesis of the express definition or clear and unmistakable manifestation of exclusion Petitioners need to support their lexicographer and disavowal arguments.²⁹ See e.g., *Anchor Wall Sys., Inc. v. Rockwood Retaining Walls, Inc.*, 340 F.3d 1298, 1310-11 (Fed. Cir. 2003) ("we note that words of approximation, such as 'generally' and 'substantially,' are descriptive terms 'commonly used in patent claims 'to avoid a strict numerical boundary to the specified parameter' . . . we hold that the phrase 'generally parallel' envisions some amount of deviation from exactly parallel"); see also *Playtex Prods., Inc. v. Procter & Gamble Co.*, 400 F.3d 901, 907 (Fed. Cir. 2005)

²⁸ See note 15 *supra*; see also CFF 235-52, 157-61, 164-66, 343-45 (which are incorporated and reasserted herein by reference).

²⁹ See also CBr. 54-55 and the CFFs cited therein (which are incorporated and reasserted herein by reference).

(explaining that “in claiming ‘substantially flattened surfaces,’ Playtex claimed more than flat surfaces”); (*British Telecomm. LC*, 189 F. Supp. 2d 101, 115 (S.D.N.Y. 2002)) (“Given that the applicant used the term ‘e.g.,’ the Court certainly will not limit the main store to a magnetic disk and nothing else.”).

Thus, for example assertions by the OUII such as – “the ID . . . failed to accord the appropriate weight to the patentees’ express definition” (OUII Pet. at 18) and “the specification expressly sets forth limitation for water by volume of “up to about 4%” when aniline is used as the solvent” (OUII Pet. at 20) – are irreconcilable with the patents’ clear and unequivocal description of the 4% amount of water as only an example.

Specifically, when the patent put the term controlled amount in quotes it provided that:

A “controlled amount” of protic material is an amount up to that which inhibits the reaction of aniline with nitrobenzene, **e.g.**, up to about 4% H₂O base on the volume of the reaction mixture when aniline is utilized as the solvent.

(CX 1, Col. 4, lines 48-53 (emphasis added)).

The phrase after the quote provides the broad non-limiting description of “controlled amount” that formed a basis for ALJ’s claim construction. (*see e.g.*, ID at 82). The phrase after the e.g., is the basis for Petitioners’ request to have this Commission reject the ALJ’s construction. It is respectfully submitted that there is no rational basis in law, fact, or logic, to read an exemplary phrase into a claim term of a patent, especially when that term was defined in a broad non-limiting manner.

(b) Respondents’ Expert Fu Admitted that the PARAGRAPH Teaches Using about 10% Water When Aniline is the Solvent

To the extent that the Commission has any doubt that the ALJ’s interpretation of the PARAGRAPH is correct, it need look no further than Respondents’ expert witness Dr. Fu. The PARAGRAPH provides that:

In addition the amount of protic material tolerated will vary with the type of base, amount of base, and base cation, used in the various solvent systems. **However, it is within the skill of one in the art, utilizing the teachings of the present** invention, to determine the specific upper limit of the amount of protic material for a specific solvent, type and amount of base, base cation and the like.

(CX 1, Col. 4, lines 61-68 (emphasis added)).

Dr. Fu admitted that this section of the PARAGRAPH teaches one of skill in the art that about 10% water can be used when aniline is the solvent. (ID at 84 (block quoting Dr. Fu's testimony)). The Petitioners do not dispute or challenge this admission by their own expert. They do not dispute or challenge the ALJ's reliance upon it. Thus, Respondents' own expert admitted that when their isolated section is viewed in context it supports the ALJ's claim construction.

(c) Examples 10, 13, and 15 Undisputedly Teach to One of Ordinary Skill in the Art Using 10-14% Water When Aniline is the Solvent

It is undisputed and unchallenged that Examples 10, 13, and 15 disclose to one of skill in the art that from about 10-14% water can be used when aniline is the solvent.³⁰ (ID at 74, 76-77, 84, 86-89, 92).³¹ The patent expressly identifies these examples as "preferred specific embodiments." (ID at 61). Moreover, these examples teach to one of skill in the art that when this amount of water is used the reactions will achieve the desired high yields and selectivity that are an objective of the invention. (ID at 84-85; *see also* ID at 55, 57, 69-71). Under Petitioners' construction these preferred embodiments, which obtain the best results in the patent, would be

³⁰ The file history also contains exemplary calculations for determining the amount of water in the patent examples, and has a determination that these amounts are inherently disclosed by those examples. (*e.g.*, ID 72-73)

³¹ *See also* CBr. at 31, 44-47, CRBr. at 1, 5-9, 13-19; CFF 139, 164-67, 237-244, 262-86, 290-304, 354 (which are incorporated and reasserted herein by reference).

written out of the claims. (ID at 86 (citing to admissions by Respondents' experts Dr. Fu and Dr. Beckman)).

There is no basis in law or fact, to ignore the teachings of these examples and improperly write them out of the claims. As the ID correctly provides:

the Federal Circuit has held that construing a claim to exclude a preferred embodiment "is rarely, if ever, correct and would require highly persuasive evidentiary support." Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1583 (Fed. Cir. 1996) the administrative law judge finds no persuasive evidentiary support for excluding the "preferred specific embodiments of Examples 10, 13, and 15 . . ."

(ID at 89-90). This is not the rare case, with the "*highly persuasive evidence*" that is needed to read preferred embodiments out of the claims. In fact, the Commission needs look no further than Dr. Fu's admission that the PARAGRAPH teaches using about 10% water to recognize that Petitioners have no evidence to support their assertion that the Commission should read these preferred embodiments out of the claims.

G. The Intrinsic Evidence of the File History Discloses Using 13.8% Water When Aniline is the Solvent.

As the ALJ correctly found the file history of the patents in issue expressly provides that 13.8% water can be used when aniline is the solvent. (ID at 74, 77). The Petitioners do not dispute this finding. Instead, Petitioners improperly argue that this was an attempt to broaden the term "controlled amount of protic material" in the later filed application. Contrary to their argument, this was not an attempt to broaden the claim term. The 13.8% water is an example of the amount of water that can be used in the claimed invention, and like the 4% example, it comes within the broad term "controlled amount of protic material." Thus, it is not broadening and does not change the definition of controlled amount protic material.

The express use of 13.8% water when aniline is the solvent, however, unquestionably

refutes Petitioners assertions that the Patentees' expressly disavowed using more than 4% water when aniline is the solvent. It is undisputed that 13.8% is greater than 4%.

Moreover, contrary to the implication raised in Petitioners' arguments, there was no need for Flexsys to change the PARAGRAPH, when it corrected the tables during the prosecution of the '111 patent. The PARAGRAPH correctly defined the upper and lower limits of the amount of protic material. That definition covered the 4% example found in the PARAGRAPH, the 13.8% water example discussed in the file history, the 13.8% water requirement of Claim 29, which is also discussed in the file history, as well as *all* of the other examples in the patent. It was and is correct. Thus, the fact that it was not changed further supports the ALJ's claim construction.

H. The OUII's Incorrect and Irrelevant Arguments

In addition to ignoring the intrinsic and the undisputed extrinsic evidence relied upon by the ALJ that over 10-14% water when aniline was the solvent was clearly taught and covered by the patent in issue, including by the PARAGRAPH, the OUII's petition advances numerous arguments that mischaracterize the ID and state propositions of patent law that are fundamentally wrong,

1. The OUII Mischaracterizes the ID, by Incorrectly Asserting that the ALJ Ignored the Intrinsic Evidence

The OUII repeatedly asserts that the ALJ erred by "ignoring" the intrinsic evidence and relying "upon the testimony of Flexsys' expert as a basis for disregarding the express definition set forth in the specifications." (OUII Pet. at 22; *see also* OUII Pet. at 2, 6, 21-23).

These assertions are incorrect. They are also internally inconsistent with other assertions made in the OUII's petition.

There can be no question that the ID included a **detailed 34 page evaluation of the intrinsic evidence** (ID at 43-77). In performing this analysis the ALJ evaluated the intrinsic evidence found in the asserted claims, the non-asserted claims, the patent specifications and the file histories and then based his claims construction on that intrinsic evidence.

The Asserted Claims – In construing the claim term controlled amount of protic material the ALJ first evaluated the term in the context of the asserted claims themselves. (ID at 43-50). This intrinsic evidence establishes that contrary to Petitioners’ claim construction, water is not required as the protic material, aniline is not required as the suitable solvent, and there is no 4% limitation on the amount of water. Thus, this intrinsic evidence fully supports the ALJ’s construction and his rejection of the 4% water limitation.

The Non-Asserted Claims – Next, the ALJ turned to the non-asserted claims in the patents. (ID at 50-53). Again, this intrinsic evidence, and in particular the 13.8% water requirement of Claim 29, fully supports the ALJ’s construction and his rejection of Petitioner’s 4% water limitation.

The Specification – The ALJ then performed a detailed and thorough evaluation of the patents’ specifications, including the examples of the preferred embodiments of the patent. (ID at 53-72). This intrinsic evidence in particular shows that: (i) there are no absolute numeric limitations on the amount of protic material, such as water; (ii) that the isolated 4% language relied upon by Petitioners is clearly exemplary; and, (iii) that the amount of protic material will vary with its upper limit to be determined based upon the skill of one in the art utilizing the teachings of the patent, which teachings include examples having about 10-14% water when aniline is the solvent. Thus, this intrinsic evidence, when viewed in its entirety as required by

Phillips and *Markman*, *see supra*, fully supports the ALJ's construction and his rejection of the 4% water limitation.

The File History – The ALJ's analysis then addressed the only remaining piece of intrinsic evidence, the file histories of the patents in issue. (ID at 72-77). This intrinsic evidence repeatedly recites the use of 13.8% water when aniline is the solvent and further provides exemplary calculations to determine the amount of water present in the examples, such as the 10-14% water in Examples 10, 13 and 15. Thus, this evidence, as does all of the intrinsic evidence, fully supports the ALJ's construction and his rejection of the 4% water limitation.

In fact, although repeatedly arguing the exact opposite,³² the OUII concedes that the ALJ performed and relied upon the above described detailed review of the intrinsic evidence:

in reaching this determination, [the claim construction for controlled amount of protic material] the ID summarizes the non-asserted claims of each of the patents at issue along with their specifications and examples. The ID also **relies on** a portion of the prosecution history of the '111 patent, . .

(OUII Pet. at 4 (emphasis added)).

Thus, as the above portion of the OUII's petition concedes, there is no doubt that the ALJ based his construction upon this intrinsic evidence (ID at 78-79). Moreover, as the ALJ provides in the summation of his claims construction determination:

respondents and the staff based their interpretation of the claim term in issue only on certain language of the PARAGRAPH and on Examples 3 and 8 of the patents in issue even though **the intrinsic evidence** also comprises other examples of the patents in issue, other language of the PARAGRAPH, the claims of the patents in issue, other portions of the patents in issue including the language in the BACKGROUND OF THE INVENTION and SUMMARY OF THE INVENTION sections, other language in the DETAILED DESCRIPTION OF THE INVENTION section of said patents as well as the prosecution history in issues where

³² *See supra* note 17 addressing other inconsistencies in the OUII's positions.

applicants argued that patent claim 29 requires that the reaction in issue when aniline is the solvent has a volume percent water at the beginning of the reaction of up to 13.8 volume present and the Examiner accepted that argument. See supra. **Considering all of the intrinsic evidence**, the administrative law judge rejects the interpretation proposed by respondents and the staff of the claim term in issue. An important principle of claim interpretation is that “the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent including the specification.” Phillips, 415 F.3d at 1313. Moreover, the prosecution history is also “part of the intrinsic evidence.” Id., at 1317.

(ID at 92 (underling in original, emphasis added)). Thus, the OUII’s assertion that the ALJ did not base his construction on the intrinsic evidence is baseless.

Moreover, prior to his summation, the ALJ provided a detailed explanation and analysis of the intrinsic evidence, how it supports his claim construction and how the *undisputed* extrinsic evidence is in agreement with his claim construction. (ID at 79-93). In this section of the ID, the ALJ evaluates the extrinsic evidence provided by the *Respondents’* expert witness, Beckman and Fu, which evidence was in agreement with Flexsys’ experts. This undisputed extrinsic evidence is consistent with the intrinsic evidence and further supports the ALJ’s claim construction. (*see, e.g.*, ID at 60, 70, 81, 83, 84, 85, 86, 87, 91 & 92 (citing to the numerous admission of Respondents experts Fu and Beckman)). Significantly, this expert testimony of Beckman and Fu, the ALJ’s interpretation of this testimony, and his reliance on this testimony, is not challenged by the either Respondents or the OUII.

The OUII simply ignores the ALJ’s reliance on **Respondents’ own experts**. For this additional reason, the OUII’s assertions that the ALJ erred by relying “upon the testimony of Flexsys’ expert as a basis for disregarding the express definition set forth in the specifications” are baseless. (OUII Pet. at 22; *see also* OUII Pet. 2, 6, 21-23).

2. The OUII Incorrectly asserts that the ALJ Relied Upon Flexsys' Expert to Disregard the Teachings of the PARAGRAPH

The OUII asserts that the ALJ erred because:

“The PARAGRAPH” states **without qualification**, that the amount of water is “up to about 4% of the reaction when aniline is the solvent and that water is “about 8%” when DMSO is the solvent. However, **the ID adopts Dr. Crich’s [Flexsys’ expert] testimony** and concludes that these maximums show that they do not apply under all reaction conditions in view of other language in the PARAGRAPH.

(OUII Pet. at 21 (emphasis added)).

This assertion is incorrect. First, as addressed above, and correctly found by the ALJ, the PARAGRAPH, on its face, is replete with qualifying language, such as “about,” “[g]enerally,” “e.g.” and “[f]or example.” (ID at 82; *See also* ID at 59, 60). Second, to the extent that the ALJ looks to any expert testimony regarding the PARAGRAPH, he principally looks to the testimony of Respondents experts. Thus, at page 84 of the ID, the ALJ quotes for Dr. Fu’s testimony, which admitted that one of ordinary skill in the art would understand the PARAGRAPH to teach the use of 10% water when aniline is the solvent.³³

Thus, a correct reading of the ID does not support the OUII’s argument.³⁴

³³ The OUII improperly singles out pages 90-91 of the ID. While these pages do cite to and address the testimony of Dr. Crich, Flexsys’ expert, that testimony is in complete agreement with the intrinsic evidence, as well as, the testimony of Respondents’ experts Fu and Beckman (ID 60, 70, 81, 83, 84, 85, 86, 87, 91 & 92 (citing to the numerous admission of Respondents’ experts Fu and Beckman)) In fact, at the bottom of page 91 the ALJ starts a summary of some of this testimony – “Sinorgchem’s expert Fu repeatedly testified that . . .” Moreover, the citation to Dr. Crich’s testimony relates to the 4% reference in the PARAGRAPH being under ambient conditions. By tying this number to Example 3, Respondents essentially conceded this to be the case. Thus, this intrinsic evidence is not disputed. (ID at 41 n.31, 84 n. 26; *see also* notes 15 & 28, *supra* herein.

³⁴ Respondents did not join in this baseless attack of the ALJ’s claim construction.

3. The OUII Incorrectly Asserts that the ALJ Ignored their Arguments and the PARAGRAPH

The OUII's assertion that the ALJ "does not address the specific language in the PARAGRAPH . . . that defines the term "controlled amount of protic material" or OUII's and Respondents' contentions relating to this section," (OUII Pet. at 5), is baseless. In fact, the ALJ expressly addresses the OUII's positions (*See, e.g.*, ID at 78, 92) and the PARAGRAPH (*See, e.g.*, ID at 59-60, 82-85, 87, 91).³⁵

4. The OUII turns Patent Law on its Head

The cases relied upon by the OUII and the legal theories advanced in their petition are inapplicable to the intrinsic evidence and would turn the patent law on its head. As discussed above, *supra*, the OUII flips the doctrine of claims differentiation on its head. Contrary to all case law on the point, the OUII argues that the presence of narrowing limitation in dependents claims provides, in fact requires, that those limitation be read back into the independent claims. (OUII Pet. at 22-24).

I. The Petitioners' case law is not applicable

It is respectfully submitted that no court has ever found a disavowal of claimed subject matter, or that acting as its own lexicographer a patent excluded from the claims: (i) three preferred embodiments, (ii) the very PARAGRAPH that allegedly gives rise to the disavowal, (iii) subject matter that the Patent Office found to be inherent in the patent, (iv) subject matter that was never amended or relied upon to distinguish the prior art, and (v) subject matter that was expressly claimed in a non-asserted claim in the patent. Similarly, no court has ever found a disavowal of subject matter when the patent is replete with broad non-limiting language and

³⁵ Respondents did not join in this baseless attack of the ALJ's claim construction.

teachings. To the contrary, courts have expressly rejected disavowal and lexicographer arguments by accused infringers under such facts.

The cases relied upon by Petitioners before the ALJ were fully distinguished in Complainant Flexsys' post trial briefs, which analysis and arguments are incorporated herein by reference. (CBr. at 29-35; CRBr. at 5-9 13-16, 19-20; ID at 88). Additional cases or changed arguments by Petitioners are addressed as follows. None of these cases provides support for, or granted the type of relief that Petitioners are seeking here.

Petitioners cite *Durel Corp. v. Osram Sylvania, Inc.*, 256 F. 3d 1298 (Fed. Cir. 2001) for the proposition that as between an explicit definition and an inherent disclosure in an example, the explicit definition governs claim construction, even where that definition would exclude a preferred embodiment.³⁶ (OUII Pet. at 26; Sinorgchem Pet. at 19; citing *Durel*, 256 F.3d at 1304). First, as forth above there is no explicit definition requiring 4% water. Second, as set forth above the use of 13.8% water is expressly recited in the patent and the file history. Thus, *Durel* is not applicable to the facts that were before the ALJ.

In particular, this case is distinguishable, because the patentee did not specifically disclose the preferred embodiment in the patent, but instead, argued that the preferred embodiment was inherent in its definition. *Id.* The court found non-infringement because the claim term "oxide coating" was expressly defined in the specification, and was supported by twenty-eight examples disclosed in the specification. *Id.* at 1303. The term "oxide coating," was expressly defined in the specification of each of the patents at issue as follows:

As used herein, "oxide coating" means a material made up primarily of metal cations and oxygen, but which may contain ***minor amounts of other elements and compounds*** originating in

³⁶ The OUII also relies on this case, for the proposition that claim terms defined in the specification govern. (OUII at 11, 19).

the precursor materials or phosphor particles, which can be generated in coating form on phosphor particles under the conditions described herein. (emphasis added).

Id.

The alleged infringer was charged with producing coatings primarily comprising compounds containing hydrogen as hydroxide. *Id.* The patentee argued that hydrogen/hydroxide was included in its definition as, “minor amounts of other elements and compounds.” *Id.* However, the court found that the patentee’s definition and examples specified that the coating would contain minor amounts of other elements (such as hydroxides), but that it could not be primarily composed of compounds, which were not binary metal oxides. *Id.* The alleged infringer’s coatings were primarily composed with hydroxides, and did not contain binary metal oxides. *Id.*

The court was not persuaded by the patentee’s argument that its definition excluded a preferred embodiment. *Id.* at 1304. The patentee argued that metal hydroxides (defendant’s coatings) are inherently present in the disclosed metal oxides in the patent. However, the court found that there was no disclosure of metal hydroxides in the specification. *Id.* Moreover, the specification teaches that the use of hydrates/hydroxides should be minimized and were thus, not intended to be covered by the patent.

Petitioners cite *Cultor Corp. v. A. E. Staley Manufacturing Co.*, 224 F.3d 1328 (Fed. Cir. 2000) for the proposition that where a patentee acts as his own lexicographer, claims must be given the meaning defined in the patent. (OUII Pet. at 20-21); Sinorgchem Pet. at 13; citing *Id.* at 1330-31. This case is distinguishable, because of the patent’s narrow and specific definition, and the patentee’s disclaimer in the prosecution history. Significantly, at no time did Flexsys rely upon the 4% water example in the PARAGRAPH to distinguish the prior art. Additionally, as contrasted with the precise definition in *Cultor*, the 4% recitation in the patents in suit is

qualified with language such as “e.g.” and “for example.” In particular, in *Cultor* “[t]he inventors described their invention narrowly and with specificity,” by explicitly defining the term as limited to water-soluble polydextrose prepared with a citric acid catalyst. *Id.*

In addition, the patentee in *Cultor*, repeatedly distinguished its invention from the prior art. *Id.* at 1329. The prosecution history showed that the patentee had to distinguish its discovery from the prior art so as to avoid being ensnared by it. *Id.* Thus, it emphasized that *the very purpose* of its invention was to solve the problem wrought by the prior art, which was to remove the bitterness in water-soluble polydextrose caused by citric acid. *Id.* The court limited the patentee to that prepared with a citric acid catalyst, because to construe it otherwise, would have invalidated the patent based on the prior art. *Id.* at 1331.

Petitioners cite *O.I. Corp., v. Tekmar Co. Inc.*, 115 F. 3d 1576 (Fed. Cir. 1997) for the proposition that where a patentee defines a claim term, claim differentiation arguments cannot change that meaning. (OUII Pet. at 24, n. 16; Sinorgchem Pet. at 17; *citing Id.* at 1582; (“Although the doctrine of claim differentiation may at times be controlling, construction of claims is not based solely upon the language of other claims; the doctrine cannot alter a definition that is otherwise clear from the claim language, description, and prosecution history.”)). This case is distinguishable, because the court found that the language in the claim was explicitly clear. *Id.* As addressed above, there is no language in the independent claims of the patents in suit that would rebut the strong presumption created by the doctrine of claims differentiation. To the contrary, the clear language of the claims, and the ALJ’s construction of that language, is the only construction that is constituent with all of the claims.

In particular in *O.I. Corp.*, the patentee argued that the term “passage,” excluded smooth-walled, completely cylindrical structures, which described the alleged infringer’s product. *Id.*

First, the court found that “[a]ll of the ‘passage’ structures contemplated by the written description are either non-smooth or conical,” and does not mention anything about a smooth-walled, completely cylindrical structure (alleged infringer’s product) *Id.* at 1581 (emphasis added). Second, it found that “the description expressly distinguishes over prior art passages by stating that those passages are generally not smooth-walled.” *Id.*

Although the patentee argued that to exclude smooth-walled geometries would violate the doctrine of claim differentiation³⁷, the court found that in this case, the language in the description provided clear meaning of the term, and did not analyze the issue further *Id.* at 1582.

The Respondents cite *Exxon Chem. Patents, Inc. v. Lubrizol Corp.*, 64 F. 3d 1553 (Fed. Cir. 1995) for the proposition that, the public and a patentee’s competitor’s are entitled to clear and specific notice of what the inventor claims as his invention. (Sinorgchem Pet. at 21; *Id.* at 1563). In the present case the undisputed intrinsic evidence provides clear and unmistakable notice to the public that greater than 4% water is covered by the claims – 13.8% water recited in the file history and in the patent claims is greater than 4% water. Moreover, Respondents are citing to dicta in a concurring judge’s opinion.³⁸

Petitioners cite *Telemac Cellular Corp. v. Topp Telecom, Inc.*, 247 F. 3d 1411 (Fed. Cir. 1997) cite this case for the proposition that claims do not have to encompass all examples disclosed in a patent specification. (OUII Pet. at 27; Sinorgchem Pet. at 18; *Id.* at 1326). This case is distinguishable, because although the court excluded certain embodiments, it did so because: (1) otherwise the rest of the claims would be mere surplusage; and (2) adopting the

³⁷ Patentee argues that the independent claim, which is broader in scope, should not be limited by the dependent claim, which limits the meaning of “passage” to a structure that produces swirling or spiraling of the analyte slug.

³⁸ The concurring judge writes four short paragraphs, in an otherwise rather lengthy opinion, summarizing why he thinks the majority arrived at the correct conclusion, but based on the district court’s claim interpretation. *Id.*

patentee's interpretation would have contradicted the preferred embodiment in the patent. Thus, to the extent *Telemac* is applicable at all it supports the ALJ's construction. As set forth above the ALJ's construction, is the only construction that is constituent with all of the examples, disclosure in the specification, and claims.

In particular in *Telemac*, the patentee urged the court to adopt its interpretation of "communications means" to encompass embodiments describing communications established using toll-free calls placed by the user from the telephone. *Id.* at 1325. However, the court found that reading the embodiment into the claim would effectively ignore the remaining claim language, which identifies the host processor, and not the user, as the device that initiates communications. *Id.* Furthermore, the patentee argues that the court's interpretation would render the claimed invention inoperable. *Id.* at 1326. However, the court disagrees here too, and finds that if it accepted the patentee's argument, it would be contradicting the preferred embodiment, which describes activation and programming via a direct connection. Therefore, this case is distinguishable, because of the court's rationale for excluding certain embodiments, which does not exist in our case.

J. Respondents' Public Notice Argument is Baseless

Respondents in their Petition assert that "the ALJ's claim construction is contrary to the public notice function of patent claims." (Sinorgchem Pet. at 20-22) This argument has no basis. Respondents' own expert admitted that the patent teaches one of skill in the art to use more than 4% water when aniline is the solvent. The patent has a claim reciting 13.8% water when aniline is the solvent. The file history similarly recites using 13.8% water when aniline is the solvent. Thus, the public is fully on notice that Flexsys' patent covers more than 4% water when aniline is the solvent.

IV. THE ALJ CORRECTLY CONCLUDED THAT THE PATENTS ARE NOT OBVIOUS OVER WOHL

Respondents Sinorgchem and Sovereign (collectively “Sinorgchem”) petitioned for review of the ALJ’s determination sustaining the validity of the patents over Sinorgchem’s argument that they were “obvious.” Their petition provides no reason to review the ALJ’s well reasoned decision in this regard.

The invention covered by the patents in suit is a significant achievement. It was recognized in 1998 by the Presidential Green Chemistry Challenge Award, which noted that the new process generated “74 percent less organic waste, 99 percent less inorganic waste, [and] 97 percent less waste water,” a potential savings of millions of pounds of waste per year. (ID at 34). In addition, the inventors, Drs. Bashkin and Stern, were awarded Monsanto’s Thomas and Hochwalt Science and Technology award, which is the highest technical award given for fundamental science at Monsanto. *Id.*

In its petition, Sinorgchem attempts to belittle this achievement, incorrectly contending that this award-winning invention is found in an obscure 1903 German publication by Wohl in *Chemische Berichte*. (CX-2, at 063-119 – 063-120). Contrary to Sinorgchem’s arguments, the ALJ concluded that Wohl does not teach the first two steps of the claims at issue and that the claims at issue are not obvious in view of Wohl and other prior art. (ID at 11-13). The ALJ also found that in the 88 years between the date of its publication and the Bashkin/Stern work leading to the invention, the Wohl reference had not been considered by anyone in the rubber chemical industry as a starting point for making 4-ADPA or 6PPD. (ID at 113).

A significant flaw in Sinorgchem’s invalidity argument is its avoidance of the presumption of validity under 35 U.S.C. §282. A primary patent examiner with 14 years experience examined and granted the ‘063 and ‘111 patents after considering the Wohl

reference.³⁹ Under these circumstances, the presumption of validity is especially strong. As stated by the Court in *All-Site Corp. v. VSI Int'l*, 174 F.3d 1308, 1323 (Fed. Cir. 1999), “[t]he ‘presumption of validity under 35 U.S.C. § 282 carries with it a presumption that the Examiner did his duty and knew what claims he was allowing.’ * * * Therefore, the challenger’s ‘burden is especially difficult when the prior art was before the PTO examiner during prosecution of the application’” (citations omitted).

The ALJ in this case, who found the claims of the patents valid, has a masters in organic chemistry and is a former patent examiner.⁴⁰ He applied the correct legal standard and found the claims at issue to be valid.

A. The ALJ Correctly Found the Patents are Not Obvious over the Wohl Reference

For purposes of Sinorgchem’s invalidity argument, Claim 61 of the ‘063 patent is representative:

61. A method of producing alkylated p-phenylenediamines comprising the steps of:
- a) bringing aniline and nitrobenzene into reactive contact in a suitable solvent system;
 - b) reacting the aniline and nitrobenzene in a confined zone at a suitable temperature, and in the presence of a suitable base and controlled amount of protic material to produce one or more 4-ADPA intermediates.
 - c) reducing the 4-ADPA intermediates to produce 4-ADPA; and
 - d) reductively alkylating the 4-ADPA of Step c).

(ID at 35; CX-1, col. 15, lines 34-46 (emphasis added)).

³⁹ Richard L. Raymond is listed as the primary examiner on the faces of both patents. USPTO records show that Mr. Raymond has been a primary examiner since at least as early as January 6, 1976. *See* U.S. Patent No. 3,931,307. The searchable patent database goes back only to 1976.

⁴⁰ *See* TR 352:9-24; 518:21 – 519:9.

The ALJ found that:

[a]ll parties are in agreement that a person of ordinary skill in the art in the field of the '063 and '111 patents in 1990 would have a masters degree or equivalent and the administrative law judge so finds. Moreover in view of the technology in issue he further finds that such a person should have at least a masters degree in organic chemistry and some experience in the art of making 4-ADPA in view of the 'Related Art' sections set forth in the '063 and '111 patents.

(ID at 37).

In support of its obviousness argument, Sinorgchem primarily relied on Wohl, Chemische Berichte, 36 at 4135 (1903) (CX-2 at 063-119, 063-120, ID at 107, n.36). The ALJ found that "Wohl was not concerned with a method for producing 4-ADPA or 6PPD and does not disclose that the nitrobenzene and aniline react with one another to produce 4-nitro (p-nitro) or 4-nitroso (p-nitroso) derivatives." (ID at 110).

The ALJ concluded that Wohl did not teach a "suitable solvent system" as defined by the claims because Wohl defined the reactants as "the mass" or "the reaction mass," does not say that the reaction took place in solution, and describes the "reaction mass" as becoming "quite hard." Thus, the ALJ concluded that "Wohl's description makes it clear that there was no solvent system throughout the reaction." (ID at 111).

The ALJ also held that "Wohl does not teach 'reacting aniline and nitrobenzene . . . in the presence of . . . a controlled amount of protic material' because Wohl evaporated all of the water from his reaction and did not maintain the minimum amount necessary to maintain selectivity of the desired 4-ADPA intermediates." (ID at 111-12). The ALJ further explained, "Wohl's paper indicated he wanted to maintain anhydrous conditions to get nitrobenzene to react with NaOH." (ID at 113).

For the foregoing reasons, the ALJ concluded that “steps (a) and (b) in the claimed methods in issue are not disclosed in Wohl.” (ID at 113).

The ALJ rejected Sinorgchem’s argument that one skilled in the art would expect to use “the 4-ADPA intermediate made by the Wohl method to produce 4-ADPA and/or 6PPD.” (ID at 113). The ALJ found no merit to this argument because it concluded that Wohl did not use the methods of the claims at issue. Moreover, the ALJ concluded that there was no evidence in the record that in the 88 years between the publication of Wohl and the time Bashkin began his work that anyone in the rubber chemical industry ever considered using the Wohl reaction as the starting point for producing 4-ADPA or 6PPD. (ID at 113). Thus, the ALJ concluded that Sinorgchem’s argument to combine prior art to meet the limitations of the claims in issue was “motivated solely by the hindsight accorded one who first viewed the patents in issue,” (ID at 113 citing *In re Fritch*, 972 F.2d 1260, 1266 n.15 (Fed. Cir. 1992)).

The ALJ also found objective indicia of non-obviousness, in the investment of 15 million dollars to build and operate a pilot plant relating to the methods at issue, and the investment of 80 million dollars to build a commercial plant. (ID at 113-14).

B. Sinorgchem’s Arguments Have No Merit

Although couched in terms of “legal error,” Sinorgchem’s invalidity argument is nothing more than an attack on the ALJ’s findings of fact. At page 35 of its petition, Sinorgchem characterizes the ALJ’s factual findings that Wohl does not teach steps (a) and (b) of the claims as “legally impermissible.” In support, Sinorgchem argues that the ALJ’s findings were “contrary to the conclusion of all of the tribunals that have looked at the issue.” *Id.* Contrary to Sinorgchem’s contentions, the argument that a decision of a foreign tribunal relating to the patentability of a foreign counterpart of a U.S. patent impacts the validity of the U.S. patent to

which the counterpart relates has been characterized by the Federal Circuit as “specious.”

Medtronic, Inc. v. Daig Corp., 789 F.2d 903, 907-08 (Fed. Cir. 1986):

As a final effort to prove obviousness of the '501 invention, Daig urges this court to adopt the conclusion of a German tribunal holding the '501 German counterpart patent obvious. This argument is specious. The patent laws of the United States are the laws governing a determination of obviousness/nonobviousness of a United States patent in a federal court.

Id. at 908 (citing *In re Dulberg*, 472 F.2d 1394, 1398 (CCPA 1973)).

1. The ALJ Correctly Determined that Wohl Does Not Teach Steps (a) and (b) of the Claims

As is discussed below, the ALJ correctly determined that the 1903 Wohl reference does not teach steps (a) and (b) of claim 61.

(a) The ALJ Correctly Found That Wohl does not Teach Reacting Aniline and Nitrobenzene

There is no merit to Sinorgchem’s arguments that Wohl teaches steps (a) and (b) of the process covered by the claims. Contrary to Sinorgchem’s arguments, the ALJ relied on the express language of the Wohl reference in rejecting Sinorgchem’s argument.

Wohl does not teach that aniline reacts with nitrobenzene. Wohl teaches that “the nitrobenzene in alkaline solution was converted at first to o-quinone-monoxime, and then to o-nitrosophenol,” which “in the presence of aniline . . .condenses with aniline to an intermediate, . . . which forms phenazine upon loss of water, or phenazine-N-oxide upon oxidation by excess nitrobenzene.” (ID at 110). The ALJ thus determined that, fairly construed, before Bashkin and Stern’s invention, one skilled in the art would have concluded that “Wohl was not concerned with a method for producing 4-ADPA or 6PPD and does not disclose that the nitrobenzene and aniline react with one another to produce 4-nitro (p-nitro) or 4-nitroso (p-nitroso) derivatives.”

Id.

This conclusion is correct. In an earlier paper published in 1901 (RX 8), Wohl had concluded that “[a] direct condensation of aniline and nitrobenzene appears very unlikely . . . [W]e are left with the assumption that the aniline must condense with a different and so far unknown conversion product of the nitrobenzene.” (*Id.* at SCS014254.) A 1952 publication by Abramova et al. discussed Wohl. (RX 48). Although Abramova criticized Wohl’s proposed reaction mechanism, she agreed that nitrobenzene reacted with the base to form a compound, which then reacted with aniline, a fact which was admitted by Sinorgchem’s expert, Dr. Beckman. (Beckman TR 2017:5-6; RX 48, at KKPC-EB000093.)

In this regard, Respondents argue that the ALJ improperly “relied on proposed but unproven explanations of reaction mechanisms instead of the scientific disclosure of Wohl.” Sinorgchem Pet. at 36. This argument is dead wrong. The ALJ relied on the specific teachings of the Wohl reference.

(b) The ALJ Correctly Found that Wohl Does not Teach a “Suitable Solvent System”

The ALJ correctly found that Wohl did not teach the use of a “suitable solvent system,” as is required in element (a) of the claim. In this regard, the ALJ correctly relied on the specific teachings of the Wohl reference. (ID at 111). Wohl described the reactants (aniline, nitrobenzene and sodium hydroxide) as “the mass” or “the reaction mass.” In this regard, Wohl described the reaction as follows:

30 g aniline and 30 g nitrobenzene were mixed with 120 g finely ground, very dry sodium hydroxide and heated in a wide reaction flask in the oil bath to 110-120°. The mass was vigorously stirred with a glass stirrer, turned brown in color after a short time, and then became less viscous at the onset of the reaction. The temperature was then held between 120 and 125°. At this point the reaction mass soon became darker in color, then became viscous and then after some time became quite hard. When the reaction mass is in this condition, one can assume that the reaction has ended. The reaction product, which becomes completely hard

upon cooling, is best poured into about 1 liter of water while the reaction mass is still hot.

(ID at 111, *quoting* CX-2 at 063-120 (emphasis added)).

Thus, it is clear that by the end of the reaction, the “reaction mass” – meaning all of the reactants – becomes “quite hard.” Thus, ALJ correctly concluded that “Wohl’s description makes it clear that there was no solvent system throughout the reaction.” (ID at 111).

Sinorgchem does not challenge this evidence. Instead, Sinorgchem points to an incorrect characterization of the Wohl reference made by applicants’ patent attorney in an amendment submitted to the Examiner in the prosecution history of the ‘111 patent. (See CX-4 at ‘111-083). This characterization should have made it more difficult to obtain allowance of the claims, because it incorrectly interpreted Wohl to teach that aniline reacts with nitrobenzene (which we have demonstrated is simply not true) and that Wohl used aniline as a solvent.

The first flaw in Sinorgchem’s argument is that the applicants did not concede during prosecution that Wohl disclosed a “suitable solvent system.” On the contrary, applicants stated only that aniline was used “as solvent.” That statement neither admits nor implies that aniline is a “suitable solvent system.”

Further, Sinorgchem ignores key teachings of both the ‘063 patent and the Wohl reference. The ‘063 patent teaches that “certain suitable bases may not be as soluble in one solvent as they are in other solvents.” ‘063 patent, Col. 6, lines 31-33. Wohl’s reactants consisted of 30 g nitrobenzene, 30 g aniline, and 120 g sodium hydroxide (base). There was a slight excess of aniline that, under circumstances not present in Wohl’s reaction, might function as a suitable solvent system, but not when the reaction is run in the presence of 120 g of sodium hydroxide – four times the amount of aniline. There is no way that 30 g of aniline can dissolve 120 g of sodium hydroxide in the presence of 30 g of nitrobenzene.

Contrary to Sinorgchem's argument, the incorrect statements by applicants' patent attorney do not constitute an "admission" as to the correct teachings of the Wohl reference. The Wohl reference is in the public record, and it is the best evidence of what it teaches. One skilled in the art would read the Wohl 1903 reference in the context of Wohl's earlier 1901 (RX 8) and 1899 publications, as Dr. Bashkin testified. (TR 323:11 – 16; TR 329:3-330:4; TR 330:8-331:19). As Dr. Bashkin explained, Wohl's 1901 paper refers to "a previously made strange observation that nitrobenzene is converted to ortho nitro phenol by adding alkali [base]." (TR 330:21-331:19). Wohl's 1901 paper and 1903 papers were designed to identify what Wohl believed to be the quinone intermediate that resulted from the reaction of nitrobenzene with base." One skilled in the art would read Wohl's 1903 publication, note the reference to his earlier publications, and understand that the applicants had made a mistake.

The cases Sinorgchem cites at page 44 of its petition do not support its argument that the mistaken characterization of Wohl by applicants' patent attorney was an "admission." *Springs Window Fashions, LP v. Novo Indus. LP*, 323 F.3d 989, 995 (Fed. Cir. 2003) is a case in which the patentee gave up claim coverage during prosecution and tried to get it back in an infringement action. The Federal Circuit said, "A patentee may not state during prosecution that the claims do not cover a particular device and then change position and later sue a party who makes that same device for infringement." *Id.* It was in this context that the Court made reference to the "public notice function" of a patent and its prosecution history.

Digital Biometrics, Inc. v. Identix, Inc., 149 F.3d 1335, 1347 (Fed. Cir. 1998), another case relied on by Sinorgchem, is also inapplicable. There, the patent owner's proposed claim construction was contradicted by remarks it made during prosecution. The court concluded that

applicant's remarks were relevant to construing all of the claims of the patent. The case did not involve an incorrect characterization of the prior art.

In *Tyler Refrigeration v. Kysor Industrial Corp.*, 777 F.2d 687, 690 (Fed. Cir. 1985), the applicant admitted that a certain reference was prior art under Section 102. That is not the case here. No one disputes that the Wohl reference is prior art; it is cited as such on the face of the patents.

Contrary to Sinorgchem's arguments, not every statement about a reference that is made during prosecution is an "admission." For example, in *Chiuminatta Concrete Concepts, Inc. v. Cardinal Industries, Inc.*, 145 F.3d 1303, 1312 (Fed. Cir. 1998), the applicant had conceded in a re-examination proceeding that a prior art manual disclosed a cutting step, but distinguished it because the concrete hardness was at least 1,500 psi. The defendant argued that the patentee's representation about the concrete hardness was incorrect. The court found that the reference did not disclose the cutting step (contrary to the applicant's concession), and held that the patent was valid.

Sinorgchem is wrong on the law and wrong on the facts. Wohl does not teach a "suitable solvent system." It teaches that when the reaction is completed, a "hard mass" is all that remains. The ALJ's determination in this regard is eminently correct.

(c) The ALJ Correctly Found that Wohl Does Not Teach a "Controlled Amount of Protic Material"

The ALJ correctly found that the definition of "controlled amount of protic material" means that

"the amount of protic material (which is not limited to water) should be controlled between (1) an upper limit of protic material which is the amount of protic material beyond which the reaction between nitrobenzene and aniline (or substituted aniline) is inhibited and (2) a lower limit of protic material which is the

amount of protic material below which the desired selectivity for 4-ADPA intermediates is not maintained.”

(ID at 78-79).

Sinorgchem makes the misleading argument that a “minimum amount of protic material” “can be no water.” Sinorgchem Pet. at 42. Sinorgchem’s argument ignores the ALJ’s definition that protic material “is not limited to water,” and is wrong for several additional reasons. Most important, Sinorgchem ignores the syntax of the claim, which requires that the reaction be conducted “in the presence of a . . . controlled amount of protic material.” The phrase, “in the presence of a . . . controlled amount” means that there must be some protic material present.

In support of its strained interpretation, Sinorgchem reads out of context a statement in the PARAGRAPH that the reaction “could be conducted under anhydrous conditions.” (‘063 patent, Col. 4, lines 46-48). The ‘063 patent also discloses that protic materials “include, but are not limited to, water, methanol, and the like.” (‘063 patent, Col. 5, lines 10-13). As the ALJ correctly found, the PARAGRAPH requires a “minimum amount of protic material necessary to maintain selectivity of the desired products” (‘063 patent, Col. 4, line 68 – Col. 5 line 1). The statement in Col. 4, lines 46-48 that the reaction can be conducted under anhydrous conditions is consistent with the requirement of a minimum amount of protic material set forth in Col 4, line 68 – Col. 5, line 1. It means that the reaction does not need to be conducted in the presence of water, so long as there is a minimum amount of some protic material, such as methanol.

Wohl ran his reaction at 120 degrees C, well above the boiling point of water. He did not use any protic material. Although his reaction produced water, it was boiled off. Indeed, Wohl recites that the end product was a “hard mass.” The end result of his reaction was the production

of only 3% of 4-nitrosodiphenylamine. In the context of the '063 patent, 3% of 4-nitrosodiphenylamine is not nearly enough to “maintain the selectivity of the desired products.”

Given the foregoing, the ALJ correctly found that Wohl does not control protic material because (a) he boiled all of it off, leaving a “hard mass” as the end product, (b) and his selectivity (the ratio of desired products to undesired products) was only 3% of 4-nitrosodiphenylamine.

On page 44 of its petition, Sinorgchem takes issue with the ALJ’s reliance on the testimony of James Bashkin with respect to the interpretation of the Wohl reference. Sinorgchem offered no evidence to rebut Dr. Bashkin’s testimony. The ALJ heard six days of testimony and was entitled as the fact finder to decide whether or not to accept the testimony of either side’s experts. Sinorgchem has failed to provide any basis why the ALJ’s reliance on Dr. Bashkin’s testimony was misplaced.

Incredibly, on page 43 of its petition, Sinorgchem relies on exhibits that were excluded from evidence at the hearing. The ALJ excluded from evidence RX 857 and RX 857A as they relate to the issue of invalidity. Sinorgchem did not include it in its Section 282 statement, in clear violation of the rules, and it was not referred to in Dr. Beckman’s expert report. (TR 1928:8-1939:9). Sinorgchem provides no reason in its petition why the ALJ’s evidentiary ruling should be overturned.⁴¹

For the reasons stated above, Wohl does not disclose steps (a) and (b) of claim 61.

⁴¹ Sinorgchem’s RX 857A did not include the preface to the Welcher reference, which states, “Many obviously inferior reagents and methods are included since the treatment of the subject is intended to be complete. The inclusion of inferior methods is justified because of two considerations: in the future no time need be lost in attempting analytical methods that in the past have been demonstrated as unsatisfactory; and further, an inferior method may, with suitable modifications be made useful for certain purposes.” Thus, Sinorgchem’s attempt to sandbag Flexsys was properly rejected by Judge Luckern.

2. The ALJ Properly Rejected Sinorgchem's Hindsight Attempt To Combine Other Prior Art With Wohl

(a) Monsanto's Extensive Attempts Prior to the Invention To Find a New Process for Making 4-ADPA

Contrary to Sinorgchem's arguments at pages 37-38 of its petition, the invention claimed in the '063 and '111 patents did not occur overnight. The ALJ devoted over 25 pages of the ALJ to describing the extensive research efforts of inventors Bashkin and Stern that led to the invention. (ID at 8-34). Sinorgchem ignores this evidence.

In addition, Flexsys presented evidence, in the form of contemporaneous Monsanto research reports dating from 1973 through 1990, that the work of Drs. Bashkin and Stern was not Monsanto's first attempt to find a new method of producing 4-ADPA. On the contrary, the record shows that Monsanto engaged in extensive research, beginning as far back as the 1960's, to improve its PNCB process for making 4-ADPA and 6PPD or to find new processes for producing them. *See* Compl.'s Findings of Fact ("CFF") 33-44.

The PNCB process generated "a substantial aqueous waste stream that contains inorganic salts and organics." Further, "significant quantities of xylene are released into the air." (Bashkin TR 213:19-214:1; CX 30, at FA035664.) Additional waste was generated by the process, including potassium formate, potassium bicarbonate and CO₂, plus organic salts of chlorides and some aromatic amines, some of which are related to molecules that can be carcinogenic. (Rains TR 667:19-668:3; Bashkin TR 212:14-213:16.) In addition, the conversion rate of the PNCB process was not very high, resulting in a significant amount of high molecular weight compounds that went off in a residue stream that had to be incinerated. (Rains TR 668:4-11.)

Sinorgchem's argument is contradicted by the unrebutted testimony of Roger Rains, that beginning in the late 60's, Monsanto investigated alternative processes for making 4-ADPA.

(Rains TR 674:25-675:25; CX 54). By 1984, Monsanto recognized that its PNCB process was under pressure from product competition and environmental difficulties. (Rains TR 685:13-23; CX 55). In 1984, John Solodar of Monsanto's corporate research department attempted to find new processes for producing 4-ADPA. This project included an investigation of "direct" or head-to-tail coupling of aniline. (Rains TR 686:1-4; Rains TR 686:9-19; CX 55). On February 9, 1987, Mr. Solodar authored a report on alternative routes to manufacture 4-ADPA and 4-NDPA, which analyzed six different processes: (a) direct oxidative coupling of aniline, (b) reacting aniline and PNCB (without using formanilide), (c) synthesis and coupling of nitrosobenzene, (d) hydroquinone and aniline over alumina, (e) phenylendiamine and cyclohexanone, (f) nitration of diphenylenamine, and (g) the "Smiles and Chapman rearrangements." (Rains TR 688:13-690:6; CX 57). None of those processes were implemented by Monsanto. (Rains TR 691:14-19).

Contrary to Sinorgchem's argument at page 39 of its petition, the "head-to-tail" coupling of aniline to produce 4-ADPA would not have been an "improvement" to the PNCB process. It is an entirely separate process. Sinorgchem provides no evidence that head-to-tail coupling of aniline is an "improvement" to the PNCB process.

In 1989, Monsanto again considered a number of different technologies, including membrane technology, for eliminating waste from its PNCB process. (Rains TR 676:1-16, 692:1-19; CX 50; CX 59).

(b) Sinorgchem's Obviousness Argument is Based on Hindsight

As set forth in the previous sections, the ALJ correctly found that the Wohl publication does not teach the first two steps of claim 61. He also found, as admitted by Sinorgchem's expert, Dr. Beckman, that in the 88 years following the Wohl 1903 publication until Dr. Bashkin began his work in 1990, no one in the rubber chemical industry had considered Wohl as a starting point for producing 4-ADPA. (ID at 113; Beckman TR 2009:7-22).

To prevent hindsight invalidation of patent claims, “the law requires some ‘teaching, suggestion or reason’ to combine cited references.” *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1351 (Fed. Cir. 2001). As the ALJ stated, “[i]t is impermissible to use the claimed invention as an instruction manual or ‘template’ to piece together isolated disclosures and teachings of the prior art so that the claimed invention is rendered obvious.” (ID at 113), *citing*, *In re Fritch*, 972 F.2d at 1266, n.15. Hindsight, however, is the lynchpin of Respondents’ obviousness argument, as the ALJ correctly found. (ID at 113).

In order to prove that the claims-at-issue are “obvious,” Sinorgchem was required to demonstrate that there was a motivation in the prior art to combine references. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. “The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art.” *In re Kotzab*, 217 F.3d 1365, 1370 (Fed. Cir. 2000); *see also In re Lee*, 277 F.3d 1338, 1342-44 (Fed. Cir. 2002) (discussing the importance of relying on objective evidence and making specific factual findings with respect to the motivation to combine references).

The Federal Circuit has stated that “[t]here are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art.” *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998) (The combination of the references taught every element of the claimed invention, however without a motivation to combine, a rejection based on a prima facie case of obvious was

held improper.). The level of skill in the art cannot be relied upon to provide the suggestion to combine references. *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 1324 (Fed. Cir. 1999).

Contrary to Sinorgchem's arguments, the nature of the problem to be solved did not make the invention obvious. Sinorgchem argues, in an overly simplistic manner, that the problem was to remove the chlorine from paranitrochlorobenzene. Even assuming Wohl taught that aniline reacts with nitrobenzene in the presence of base (which is not what it says), one skilled in the art would have observed that the Wohl reference produced only 3% of 4-nitrosodiphenylamine, which is characterized in the '063 patent as a 4-ADPA intermediate. If one skilled in the art were attempting to find a cleaner process for making 4-ADPA, then why would he or she look to a reaction that produces only 3% of the desired product and 97% of undesired products, such as phenazine? One skilled in the art would understand that the use of the Wohl reaction would result in even more waste than the PNCB process.

Moreover, Sinorgchem ignores undisputed evidence that teaches away from the invention. First, Wohl, itself, states that nitrobenzene reacts with base, which would not lead one skilled in the art to assume that nitrobenzene reacted directly with aniline in the presence of base. Second, the 1952 Abramova article characterized Wohl's reaction as "The Mechanism of the Wohl Reaction for Synthesizing Phenazine." (RX 48) Significantly, Abramova investigated Wohl because she had "an interest in phenazine and some of its derivatives as raw material for the synthesis of microorganism pigments: pyocyanin, iodinin, and chlororaphin." (RX 48) Third, a 1951 article by Bunnett et al recognized that nucleophilic aromatic substitution reactions were "seldom tidy" and that "[y]ields are often small, with a complicated mixture of by-products." (RX 47). Even if those skilled in the art recognized Wohl as a nucleophilic aromatic substitution reaction, they would not have been motivated to combine it with the other references

relied on by Respondents, because Wohl produced a “small yield” of p-nitrosodiphenylamine with “a complicated mixture of byproducts.” (*Id.*) All of these prior art references teach away from using Wohl’s reaction to make 4-ADPA.

The prior art discussed above refutes Dr. Beckman’s argument that one skilled in the art would be motivated to “tinker” with the conditions of Wohl. Sinorgchem Pet. at 40. In the 88 years since the Wohl reference was published, the record is devoid of any evidence that anyone “tinkered” with it for the purpose of producing 4-ADPA. Dr. Beckman admitted on cross examination that he did not know of any such tinkering efforts. (Beckman TR 2021:10-2022-22).

The simple fact is that no one “tinkered” with Wohl. Contrary to Sinorgchem’s argument, Dr. Rains did not concur that, prior to the invention, one skilled in the art would have “tinkered” with the conditions of Wohl to improve the results. The questions asked of Dr. Rains were in connection with the work done by Mr. Triplett of Flexsys in 2000, eight years after the ‘063 patent was published, to study Wohl’s reaction. (*See* Rains TR 773:22-25; 779:23-785:4). Sinorgchem ignores Dr. Rains’ testimony that he conducted a search of Monsanto’s technical library and found no evidence that anyone ever “tinkered” with the Wohl process. (Rains TR 798:17-800:8). Further, Sinorgchem attempts to support its argument by referring to “the work of Flexsys’ chemist Mr. Triplett in 2000,” eight years after the ‘063 patent issued. Nonsense. Dr. Rains testified that Mr. Triplett had knowledge of the ‘063 and ‘111 patents when he was conducting his experiments. (Rains TR 800:10-15).

(c) Secondary Considerations Support the ALJ’s Determination

Contrary to Sinorgchem’s unsupported argument, the ALJ properly found that Monsanto’s and Flexsys’ investment of 95 million dollars, plus the fact that the process of the

invention replaced the prior art PNCB process, are evidence of commercial success. Moreover, the awards given to the inventors further provide objective indicia of non-obviousness.

For the reasons set forth above, the ALJ properly concluded that the patents in suit are valid. Sinorgchem's petition for review in this regard should be denied.

V. THE CLAIMS ARE NOT INDEFINITE

A. The ALJ Correctly Found The Claims are not Indefinite

Citing *Energizer*, 435 F.3d 1366, the ALJ employed the following analysis in determining whether the asserted claims are indefinite:

35 U.S.C. § 112 ¶ 2 requires that the patent specification shall "conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." This provision both facilitates examination during the patent application stage, and upon grant serves to notify the public of what is patented. The reviewing tribunal must determine whether a person experienced in the field of the invention would understand the scope of the claim when read in light of the specification. See *Howmedica Osteonics Corp. v. Tranquil Prospects, Ltd.*, 401 F.3d 1367, 1371 (Fed.Cir.2005) (claim not indefinite due to ambiguity when meaning readily ascertained from the description in the specification); *Personalized Media Communications, LLC v. Int'l Trade Comm'n*, 161 F.3d 696, 705 (Fed.Cir.1998). See generally *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed.Cir.2005) (*en banc*) (claims are construed in the context of the specification and prosecution history, as they would be understood by persons in the same field of endeavor).

(ID at 115-16). Applying this standard to the case at hand, the ALJ framed the issue as "whether a person of ordinary skill in the art having at least a masters degree in organic chemistry and some experience in the art of making 4-ADPA and aware of all pertinent prior art would find the claimed term 'controlled amount or protic material indefinite.'" (ID at 116). The ALJ concluded, "[i]n view of the specific preferred embodiments (examples) included in the specifications of the '063 and '111 patents, as well as the prosecution history of said patents . . .

the administrative law judge finds that such a person would not find the claimed term indefinite.”

Id. In this regard, the ALJ concluded that “the specifications provide a number of examples through controlled experiments that would permit said person to determine the specific upper and lower limits of protic material for a specific set of reaction conditions and that the prosecution history even provides calculations.” *Id.*

In addition, the ALJ carefully considered the *Exxon* and *Datamize* decisions and the parties’ arguments regarding the applicability of those decisions to this Investigation. With respect to *Exxon*, the ALJ properly determined that *Exxon* supports a finding that the asserted claims are *not* indefinite. The ALJ noted that the *Exxon* court, in finding the phrases “for a period sufficient,” and “to increase substantially” definite, “observed that the specification provided some guidelines, even though the specification did not define those claim terms by numerical limits.” (ID at 117). Likewise, in this Investigation, the ALJ found that “the specifications of the ‘063 and ‘111 patents provide a number of examples through controlled experiments that permit one skilled in the art to determine the specific upper and lower limits of protic material for a specific set of reaction conditions.” (ID at 117).

The ALJ also found persuasive *Exxon*’s analysis of another claim term “substantial absence of slug flow.” In rejecting the government’s contention that this claim term was indefinite, the *Exxon* court observed that “[o]ne of skill in the art would understand from the specification that the reason slug flow should be avoided is that it may interfere with reactor efficiency.” *Exxon Research and Eng’g Co. v. U.S.*, 265 F.3d 1371, 1381 (Fed. Cir. 2001). Similarly, the specifications of the patents in issue provide “a number of benchmarks that inform one skilled in the art the effect of controlling protic material on conversion and selectivity.” (ID at 117-118). As the ALJ observed on page 117 of the ID:

the patents in issue teach that too much protic material can inhibit the reaction of aniline and nitrobenzene; that the upper limit can be determined by those skilled in the art ‘utilizing the teachings of the present invention’ which includes all of the specific preferred embodiments (the examples); and, that the upper limit will vary “for a specific solvent, type and amount of base, base cation and the like.

The ALJ found that the same is true for the lower limit of protic material, which affects selectivity of the desired products. (ID at 117).

Finally, the ALJ considered and rejected the Respondents’ and OUII’s suggestion that this case is analogous to *Datamize*. The ALJ concluded that *Datamize* is distinguishable on its facts because, in that case, the term “aesthetically pleasing” was found indefinite because the specification provided no objective standard for determining whether an interface screen was “aesthetically pleasing.” In contrast, the ALJ found that the disclosure of the patents at issue in this Investigation provide an objective definition for the claimed term “controlled amount of protic material.” (ID at 119).

B. Respondents’ Arguments Are Misplaced

1. Respondents do not Meet Their Burden of Proof of “Clear and Convincing Evidence”

Significantly missing in Respondents’ petition is the acknowledgement that they must prove by “clear and convincing evidence” that the claims are indefinite. *North American Vaccine, Inc. v. American Cyanamid Co.*, 7 F.3d 1571, 1579 (Fed. Cir. 1993). Flexsys, as the patentee, is entitled to a presumption of validity. *See, e.g., Exxon*, 265 F.3d at 1380. And, as the Federal Circuit aptly stated in *Exxon* “[i]n light of that presumption . . . close questions of indefiniteness in litigation involving issued patents are properly resolved in favor of the patentee.” *Id.*

Nevertheless, there is no close question here. Respondents have not presented a shred of evidence, let alone “clear and convincing” evidence, contradicting Judge Luckern’s conclusion that “the specifications of the ‘063 and ‘111 patents provide a number of examples through controlled experiments that permit one skilled in the art to determine the specific upper and lower limits of protic material for a specific set of reaction conditions.” (ID at 117).

2. Respondents’ Arguments Were Properly Rejected by the ALJ

In their Petition, Respondents rehash the same arguments that were properly rejected by the ALJ in the ID. For example, on page 33 of their petition, Respondents suggest that because “the term controlled amount of protic material” is a “critical feature” of Flexsys’ patents there must be definitive upper and lower limits. Sinorgchem Pet. at 33. Yet, Respondents do not cite a single case supporting this theory. Indeed, Respondents could not cite such a case because this is not the law.

As the Federal Circuit has pointed out on numerous occasions “under the law pertaining to indefiniteness—if the claims, read in light of the specification, reasonably apprise those skilled in the art both of the utilization and scope of the invention, and if the claim language is as precise as the subject mater permits, the courts can demand no more—the claims clearly are definite.” See *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1385 (Fed. Cir. 1986) (citations omitted) (emphasis added); *Exxon*, 265 F.3d at 1379 (“we conclude that the claim limitation is expressed in terms that are reasonably precise in light of the subject matter.”); and *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F. 2d 1565, 1576 (Fed. Cir. 1986).

For example, in *Orthokinetics*, the claimed invention was a collapsible pediatric wheelchair, which facilitated the placing of wheelchair-bound persons, particularly children, in and out of automobiles. *Orthokinetics*, 806 F. 2d at 1568. The disputed claim language was

“wherein said front leg portion is *so dimensioned* as to be insertable through the space between the doorframe of an automobile and one of the seats thereof.” *Id.* at 1575 (emphasis added). In reversing the district court’s JNOV for claim indefiniteness, the Federal Circuit noted:

[t]he phrase ‘so dimensioned’ is as accurate as the subject matter permits, automobiles being of various sizes. As long as those of ordinary skill in the art realized that the dimensions could be easily obtained, § 112 2d ¶2 requires nothing more. The patent law does not require that all possible lengths corresponding to the spaces in hundreds of different automobiles be listed in the patent, let alone that they be listed in the claims.

Id. at 1576. Likewise, “controlled amount of protic material,” as the term is used in the patents, does not lend itself to strict numerical boundaries as these boundaries are a function of the reaction variables. All that matters for purposes of § 112 2d ¶2 is that one of ordinary skill in the art realizes that these parameters could be obtained based on the teachings in the patent. Notably, the ALJ, who has a Masters in Organic Chemistry himself, found that this was the case and rejected Respondents assertions to the contrary.

3. Respondents’ Argument About The Testimony of the Inventors and Experts is Misplaced

The testimony of the inventors and Flexsys’ experts was consistent with the teachings of the ‘063 and ‘111 patent. In connection with the upper limit of protic material, both patents teach that

[t]he amount of protic material tolerated will vary with type of base, amount of base, and base cation, used in the various solvent systems. However, it is within the skill of one in the art, utilizing the teachings of the present invention, to determine the specific upper limit of the amount of protic material for a specific solvent, type and amount of base, base cation and the like. The minimum amount of protic material necessary to maintain selectivity of the desired products will also depend on the solvent, type and amount of base, base cation and the like, that is utilized and can also be determined by one skilled in the art.

(‘063 patent, Col. 4, line 63 through Col. 5, line 4; ‘111 patent, Col. 5, lines 55-65). This explicit teaching refers to the entire patent, including the 12 examples in the ‘063 patent and the 21 examples in the ‘111 patent.

The testimony to which Respondents refer on pages 26-29 of their petition consists of responses to their counsel’s improper and incomplete hypotheticals. The patent teaches that the upper and lower limits for protic material depend on the "specific solvent, type and amount of base, base cation and the like." (‘063 patent, Col. 4 line 61 through Col. 5, line 4). The hypothetical questions did not include all of this information. Further, the question set forth on page 26 of Sinorgchem's petition, was impossible to answer because the question was limited to Example 8, which is a controlled experiment not designed for that purpose. Dr. Bashkin's testimony on page 27 is consistent with the teachings of the patent. The questions on page 28 and 29 were imprecise, and not directed to this issue. Indeed, if this were not an administrative hearing, Flexsys would have objected to the questions recited in Respondents’ brief at pages 26-29. Nevertheless, Respondents’ insinuation that these witnesses should have been able to calculate the upper and lower limits of protic material in any given example, on the spot, in the middle of the hearing, is ridiculous and should be disregarded, just as this argument was disregarded by the ALJ.

4. *Datamize* Is Not Controlling

The notion that *Datamize*, a computer software case involving aesthetics, somehow controls the analysis here, and not *Exxon*, a chemical process case, is ludicrous. In *Datamize*, the Court found the claim term “aesthetically pleasing” to be indefinite because the patentee failed to give any standard, factor, criteria, guidance, or way to quantify the claim term to a person of ordinary skill in the art. *Datamize v. Plumtree Software*, 417 F.3d 1342, 1351-52 (Fed. Cir.

2005). Notably, the Court distinguished the facts before it from those in *Orthokinetics*, where it found the phrase, “so dimensioned,” not indefinite. *Id.* at 1350; *citing Orthokinetics*, 806 F. 2d at 1575-76. The *Datamize* court explained that in *Orthokinetics*, one of ordinary skill in the art would be able to determine the appropriate dimensions that the claim language required by “measur[ing] the space between the selected automobile’s doorframe and its seat and then dimension the front legs of the travel chair so they will fit in that particular space in that particular automobile.” *Id.* In contrast, the term “aesthetically pleasing” in *Datamize*’s patent was “completely dependent on a person’s subjective opinion.” *Id.* at 1350.

Indeed, the completely subjective nature of the term “aesthetic” has been recognized by numerous courts in zoning cases. *See, e.g., Metromedia, Inc. v. City of San Diego*, 453 U.S. 490, 510 (1981) (“esthetic judgments are necessarily subjective, defying objective evaluation.”); *United Food & Comm. Workers Union, Local 1099 v. Southwest Ohio Reg’l. Transit Auth.*, 163 F.3d 341, 360 (6th Cir. 1998) *quoting Smith v. Goguen*, 415 U.S. 566, 573 (1974) (“We have no doubt that the application of the term “aesthetically pleasing” will substantially vary from individual to individual, for ‘[w]hat is contemptuous to one ... may be a work of art to another.’”); *Desert Outdoor Advertising, Inc. v. City of Moreno Valley*, 103 F.3d 814, 819 (9th Cir. 1996) (“City officials have unbridled discretion in determining whether a particular structure or sign will be harmful to the community’s health, welfare, or ‘aesthetic quality.’”); *Outdoor Systems, Inc. v. City of Merriam, Kan.*, 67 F. Supp. 2d 1258, 1272 (D. Kan. 1999) (“The ordinance does not define ‘aesthetics’ or explain how city officials are to determine if a sign conforms to the aesthetics of the immediate area in which it is placed.”).

For these reasons, and those cited by the ALJ in the ID, *Datamize* is not applicable here.

C. The OUII's Arguments Apply The Wrong Legal Standard

1. The OUII Fails to Acknowledge the Presumption of Validity

In *Energizer Holdings, Inc. v. ITC*, the Federal Circuit articulated the presumption as follows “[b]y finding claims indefinite only if reasonable efforts at claim construction prove futile, we accord respect to the statutory presumption of validity and we protect the inventive contribution of patentees, even when the drafting of their patents has been less than ideal.”

Energizer, 435 F.3d at 1369. As the Federal Circuit aptly stated in *Markman v. Westview Instruments*:

Patent applications, unlike contracts, are reviewed by patent examiners, quasi-judicial officials trained in the law and presumed to have some expertise in interpreting the [prior art] references and to be familiar from their work with the level of skill in the art and whose duty it is to issue only valid patents. If the patent's claims are sufficiently unambiguous for the PTO, there should exist no factual ambiguity when those same claims are later construed by a court of law in an infringement action.

Markman v. Westview Instruments, Inc., 52 F.3d 967, 986 (Fed. Cir. 1995) (citations omitted); *see also Intervet Am., Inc. v. Kee-Vet Lab., Inc.*, 887 F.2d 1050, 1054 (Fed. Cir. 1989) (“The presumption of validity under 35 U.S.C. § 282 carries with it a presumption the examiner did his duty and knew what claims he was allowing.”).

Indeed, the presumption of validity is particularly strong here, where the primary examiner of the ‘063 and ‘111 patents, Richard Raymond, had been examining patent applications as a primary examiner for more than fourteen years before allowing the claims of the ‘063 patent. (*See supra*, n. 39). Further, the ALJ, Paul Luckern, who found the patents in issue were not indefinite, is a former patent examiner himself and has a Masters in Organic Chemistry.

In its petition, the OUII not only fails to acknowledge the presumption of validity, it also disingenuously omits it from its discussion of *Exxon*. On page 36 of its petition, the OUII argues that “the *Exxon* court distinguished *Jolly* on two grounds: (1) unlike *Jolly*, the specifications in *Exxon* set forth a lower limit, and (2) unlike *Jolly* where the specification taught that the limitation was critical, the specifications of the patents in *Exxon* did not contain any such representation.” OUII Pet. at 36. Contrary to the OUII’s implication, these were not the sole grounds upon which the *Exxon* court distinguished *Jolly*. Indeed, a primary reason for the Court’s finding that *Jolly* was unlike *Exxon* was because, *Exxon*, like *Flexsys* was entitled to a statutory presumption of validity, whereas the patent applicant in *Jolly* was not. The discussion that the OUII conveniently omitted from its petition reads as follows:

Finally, *Jolly* was a case in which the court was reviewing the rejection of a patent application, not an infringement action based on an issued patent . . . **Unlike the applicant in *Jolly*, Exxon has the benefit of a statutory presumption of validity, 35 U.S.C. § 282. In light of that presumption and the difference in posture between an applicant whose application has been rejected and a patentee with an issued patent, close questions of indefiniteness in litigation involving issued patents are properly resolved in favor of the patentee.** Thus, in cases subsequent to *In re Jolly* that have involved issued patents, this court has held claims definite even when some degree of experimentation was necessary, as long as the claims otherwise met the enablement requirement. The government’s expert admitted that the “period sufficient” can be ascertained by conducting activity checks. Therefore, **a person of ordinary skill in the art would understand the scope of that claim limitation, which is all that paragraph 2 of section 112 requires.**

Exxon, 265 F.3d at 1380 (emphasis added). As discussed earlier, both Respondents and the OUII have failed to overcome this presumption; neither of them has presented a shred of evidence proving incorrect the ALJ’s conclusion that one of skill in the art, based on the teachings in the patents, would be able to determine the parameters of a “controlled amount of protic” material for any given set of reaction conditions. (ID at 117).

2. The OUII Incorrectly Analyzes Case Law

Like Respondents, the OUII suggests that *Datamize* is “on all fours with the instant case.” OUII Pet. at 38. As discussed above, the notion that this case is somehow similar to *Datamize*, a computer software case in which the court found the term “aesthetically pleasing” indefinite, is ridiculous. Several courts have recognized the completely subjective nature of the term “aesthetic.” See e.g., *Metromedia*, 453 U.S. at 510 (1981); *Desert Outdoor Advertising*, 103 F.3d at 819; and *Outdoor Systems, Inc.*, 67 F. Supp. 2d at 1272. Moreover, the *Datamize* patent gave absolutely no guidance as to the meaning of this term. Indeed, in finding the term indefinite the Court noted that “[o]ne skilled in the art reading the specification is left with the unhelpful direction to consult the subjective opinions of aesthetic design specialists, database specialists, and academic studies.” *Datamize*, 417 F.3d at 1352. In his analysis of the *Datamize* case, the ALJ found that this case was distinguishable because “[i]n this investigation . . . the disclosures of the ‘063 and ‘111 patents, supplemented by the prosecution history, do provide an objective definition for the claimed term ‘controlled amount of protic material’ to a person having a masters degree in organic chemistry and some experience in the art of making 4-ADPA and having awareness of all pertinent prior art.” Thus, a “person ‘experienced in the field’ of the invention in issue, and not merely a person with no chemical background, would understand [sic] the meaning of “controlled amount of protic material” in view of the claims and the specifications of the ‘063 and ‘111 patents and the prosecution history.” (ID at 119). Again, neither Respondents nor the OUII have shown otherwise.

Further, as discussed above, the OUII’s discussion of *Exxon* is disingenuous to say the least. In its unsuccessful attempt to distinguish *Exxon*, the OUII argues that the sole reason the court found the claim terms “to increase substantially,” “for a period sufficient,” and “substantial

absence of slug flow,” to be definite was because the specification either “provided specific targets to be met, or the specifications did not represent that the limitation was critical to the invention.” OUII Pet. at 35. As discussed above, in making this argument the OUII conveniently disregards the *Exxon* court’s lengthy discussion of the statutory presumption, which, in the Court’s mind, distinguished it from cases like *Jolly* where the presumption did not attach. *Exxon*, 265 F.3d at 1380.

Moreover, the OUII’s suggestion that the *Exxon* rationale “requires the presence of objective upper and lower limits in the specification” because the “controlled amount of protic material” limitation is, allegedly, critical is incorrect as a matter of law. OUII Pet. at 37. Indeed, the OUII cites to no particular page of the *Exxon* opinion for this newly-created proposition of law. Nor could it. The *Exxon* Court only stated that “the specification in *Jolly* taught that reaction time was critical to the patentability of the invention . . . and [t]here is no equivalent representation as to the criticality of the treatment period in this case.” *Exxon*, 265 F.3d at 1379. At no time did the Court hold that if there had been such a representation, the “presence of objective upper and lower limits in the specification” is required. However, the Court did reiterate in its indefiniteness analysis a principle that the Federal Circuit has recognized time and time again in the context of validity challenges on grounds of indefiniteness, stating **“we conclude that the claim limitation is expressed in terms that are reasonably precise in light of the subject matter.”** *Id.* at 1379 (emphasis added), citing *Orthokinetics*, 806 F.2d at 1576 (“the phrase ‘so dimensioned’ is as accurate as the subject matter permits.”); see also *Hybritech*, 802 F.2d at 1385 (“if the claim language is as precise as the subject matter permits, the courts can demand no more”).

The term “controlled amount of protic material” does not lend itself to strict numerical boundaries because those boundaries are a function of all of the reaction conditions. The ALJ has adopted Flexsys’ definition of this term as “an amount up to that which inhibits the reaction of aniline [or substituted aniline] with nitrobenzene”, and that a “minimum amount of protic material [is that] necessary to maintain selectivity of the desired products.” (ID at 82) (citations omitted). Because this definition is as precise as the subject matter permits, the claim term is not indefinite.

3. The OUII’s Arguments About Testimony is Misplaced

The OUII relies on the same testimony that Respondents rely on. As discussed above, this testimony consists of attempted responses to the improper and incomplete hypotheticals raised by Respondents’ counsel. If this were not an administrative hearing, Flexsys would have objected to such questioning. Still, the OUII’s implication that these witnesses should have been able to calculate the bounds of protic material for a set of reaction conditions on the spot, in the middle of the hearing, is absurd, and should be rejected as such. The fact remains that, Judge Luckern, determined that “the specifications of the ‘063 and ‘111 patents provide a number of examples through controlled experiments that permit one skilled in the art to determine the specific upper and lower limits of protic material for a specific set of reaction conditions.” Because the OUII and Respondents have not shown otherwise, let alone presented “clear and convincing evidence” on this point, the ALJ’s determination that the asserted claims are *not* indefinite should stand.

VI. INFRINGEMENT

A. Overview of the Infringement Finding, the Violation, and the Participants' Positions

The ALJ correctly found that under his claim construction each and every element of the claims was literally present in the processes used to make Respondent Sinorgchem's 4-ADPA and 6PPD, Respondent Sovereign's 6PPD, and Respondent KKPC's 6PPD. (ID at 97, 101-02, 103, 104). These finding were based essentially on evidence from Respondents' witnesses and documents, a stipulation of the parties, and other evidence that is not disputed. (ID at 98-102, 103-04). In particular, Respondents' expert Dr. Fu admitted infringement. (ID at 100). These determinations are fact findings, and thus, subject to review by the Commission under the clearly erroneous standard of § 210.43(b)(1)(i). *See Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 284-85 (1996).

Based upon these factual determinations the ALJ found that Sovereign's 6PPD and Sinorgchem's 4-ADPA and 6PPD violated § 337. (ID at 101-02). The ALJ, however, did not find a violation by KKPC's 6PPD. The KKPC finding was based solely on a novel statutory construction issue of § 337, which is the subject of Complainant Flexsys' Petition filed on March 3, 2006.⁴²

Respondent Sinorgchem and Sovereign seek review of these infringement findings. However, that review is based solely on the claims construction issue. They do not dispute the factual findings by the ALJ that their 6PPD and 4-ADPA are made by the steps of the patented

⁴² Although the ALJ found that KKPC's 6PPD was made by all of the steps of the claims, he declined to find a violation based on his requirement that KKPC perform all of the recited steps itself. Sinorgchem practices the patent steps to make the 4-ADPA. It then sells this 4-ADPA to KKPC, who practice the last step in the patent process to make 6PPD. Thus, KKPC's 6PPD is made by all of the steps in the patented process. To summarize Complement Flexsys' position in its Petition, it is irrelevant "who" practiced the steps of the patent; the only thing relevant to find a violation is that the product itself, here KKPC's 6PPD, was made by those steps.

process under the ALJ's claim construction. The OUII takes a similar position. This is not surprising, since Respondent's expert admitted infringement. (ID at 100-01).

Respondent KKPC, either directly or as a contingency, did not seek review of the ALJ's finding that its 6PPD was made by the patented process. (*See* KKPC Pet. at 5). Thus, KKPC has abandoned this issue.

In the alternative, Flexsys asserted to the ALJ that if Respondents' claim construction were accepted, that their products would nevertheless be made by a process covered by the patented process under the doctrine of equivalents. Flexsys maintains and reasserts this position before the Commission.

B. Sinorgchem's Process

The starting point for the infringement analysis is the process that Sinorgchem uses to make 4-ADPA, since that process is the root of the steps to make all 6PPDs at issue here. [

]

C. Under Petitioners' Construction there is Infringement under the Doctrine of Equivalents

Under Petitioners' construction of the term controlled amount of protic material to mean 4% water when aniline is the solvent, Sinorgchem's process would still infringe that claim term under the doctrine of equivalents. As set forth below, when viewed in the context of the patents' teachings, the differences [

]

As noted above, [

]

1. []

[

]

2. []

The patents also teach that the maximum amount of protic material will vary depending upon the temperature. (CFF 346-51). [

]

3. []

The patents teach that the maximum amount of protic material will vary depending upon reaction conditions, such as the pressure. (CFF 346-51). []

4. []

[]

]

5. **The Intrinsic Evidence Placed the Public, and Sinorgchem on Notice**
[]

As set forth above, during the prosecution of the `111 patent's application, 13.8% water when aniline was the solvent was expressly and repeatedly recited. []

]

6. [

]

One of the key teachings of the patents is the concept that the amount of protic material affects the yield and selectivity of the reaction. (CFF 313-19). Thus, the Field of the Invention and the Summary of the Invention, expressly teach that the amount of protic material should be controlled to obtain a high yield that is rich in 4-ADPA intermediates. (CFF 313-19).

[

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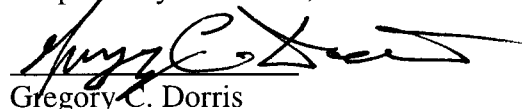
VII. CONCLUSION

For the reasons stated above, neither the petition filed by OUII, nor the petitions filed by Respondents, demonstrates any reason under Commission Rule 210.43(b)(1) why the ID issued by the ALJ should be reviewed by the Commission.

PUBLIC VERSION

Dated: March 20, 2006

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Gregory C. Dorris", written over a horizontal line.

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CERTIFICATE OF SERVICE

I hereby certify that a copy of the attached was served as indicated on the parties listed below this 20th day of March 2006:

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